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Surgical Treatment of Fibromas*

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I. WARTS OR FIBROUS TUMORS

LOCATION. These growths are most commonly found on young animals, being located on various parts of the body, and particularly on the under surface of the abdomen, the genitals, mammary gland, lips and eyelids.

Appearance: As a rule their appearance is that of a raw, easily-bleeding growth, projecting above the surrounding skin, varying in size and generally having a large base, though this may be constricted. On section they may be quite soft, especially when the cellular elements predominate, or hard and glistening when the fibrous elements are in the majority; between these two we have various gradations. They are classified as benign, unless by their encroachment upon a vital organ they threaten to interfere with, or destroy the functions of the latter.

Treatment: Ligations, torsion, and the application of escharotics have been favorite methods of treating these growths. While these methods are successful in removing them, they almost invariably recur.

On the other hand, if they are excised by making the incision in the healthy tissue surrounding the tumor, at the same time carrying the incision deep enough so as to get under the growth, we are reasonably certain to remove all of the diseased tissue. Furthermore, if this is immediately followed by the liberal application of from 25 to 50 percent formalin (this corresponds, practically, to a 10 or 20 percent solution of formaldehyde) we absolutely prevent their recurrence. The formalin acts as a disinfectant and in a few hours will have formed a thick, firmly adherent scab, under which healing takes place very rapidly; and as a rule without additional attention.

I make it a practice, however, to supply the owner with some formalin of the proper strength, and instruct him to apply some whenever the scab becomes so loose that it can easily be removed; this latter condition indicates that the scab has become undermined with pus. It is essential that as soon as this is noticed that the scab be entirely removed, and the formaldehyde solution reapplied, when healing usually takes place very rapidly; it may be necessary to make a third and even fourth application of the diluted formalin or every time the scab becomes loosened, but if this is rigorously carried out, the tumor will not recur.

II. SUBCUTANEOUS FIBROMAS, OR COLD ABSCESSES OF THE SHOULDER

Cause: These tumors are almost invariably due to the imprisonment of pus in deep-seated, inter-muscular structures. The pus is, as a rule, too deeply seated to find its way to the surface; it acts as an

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irritant, resulting in enormously thickened fibrous walls.

Symptoms: A well circumscribed, subcutaneous tumor, nonimflammatory in character when in a quiescent state, but very responsive to external irritation such as rubbing of the harness, and exhibiting at these times all the phenomena of an acute inflammation. It is this latter condition that renders them such a source of annoyance, because, in the majority of cases, no sooner is the horse worked in the collar, than the otherwise innocent-appearing swelling becomes hot, swollen and painful, with the result that the animal must be laid off for several days. This is liable to recur time and again.

Treatment: I believe that it is quite useless to attempt their reduction by the use of external stimulants such as iodine or blisters, therefore I have adopted the following line of treatment:

A local anesthetic is employed, injecting the same under the skin, and around and under the base of the tumor.

The animal is cast in lateral recumbency. The seat of operation is shaved and thoroughly washed with soap and carbolized water, then rinsed with alcohol, and painted with tincture of iodine.

All instruments, suturing material and drainage tubes are boiled in a solution of sodium carbonate. For a drainage tube, a piece of rubber tubing having an internal diameter of at least one-fourth inch, about two inches longer than the wound, with numerous orifices along its sides is very good. The operator's hands should be aseptic.

An elliptical incision is made over the tumor and the latter completely removed; this is indicated by the appearance of the healthy tissue. It is more preferable to remove some of the latter than to allow any of the diseased tissue to remain. All hemorrhage must be absolutely controlled, preferably by searing the wound lightly with a rather more than ordinarily hot iron, because an insufficiently heated iron will adhere to the surface over which it is passed, breaking down the crust as rapidly as it is formed. If the hemorrhage is not completely controlled, I do not believe it probable that the wound will heal by first intention.

The drainage tube is placed in position, being held there by a suture; it should project about two inches beyond the lower part of the wound. The edges of the wound are held in position by deeply placed tension sutures of strong braided silk in the form of a mattress suture, and overstitched with interrupted coaptative silk sutures. The entire wound is then thickly covered with an impervious dressing of iodoform collodion. If the drainage tube becomes clogged up at any time, it may be carefully flushed out with a normal salt solution. Strong antiseptics are to be avoided as they do more harm through irritation and destruction of new tissue, than they do good.

The animal's head should be tied high and it should be fed from a high feed box, as otherwise the constant bending downward serves to prevent healing by primary union. At the same time care should be taken that the operated area cannot be rubbed, as a good operation can be rendered useless in a few minutes by such a procedure. In about five to seven days the edges of the wound will have united, the sutures and drainage tube may be carefully removed, the former at intervals of a few days, and at the end of three to four weeks healing without a scar will be complete.

Undesirable Sequelæ: Infection of the wound, imperfect coaptation of the edges of the wound, owing to failure to make the incisions "clean cut," and negligence in proper control of the patient after the operation will result in failure of the wound to unite by first intention. There results, then, a large open, granulating wound, more undesirable than the primary condition and leaving in its wake a poor collar bed, and a disgruntled client.

By properly cleansing the wound, refreshing the edges, and proper control, it is still possible, though not probable, to get primary union. Painstaking work, carrying out every step carefully, will result in success.

DISCUSSION:

S. STEWART: This paper has to do with the operation for fibrous tumors of

the shoulder. The discussion presents a very nice technic following along the line of theoretical surgery. I am wondering how many of the practitioners here find the operation described a practical one in the routine of their daily practice.

I believe we veterinarians should, in so far as possible, undertake to carry out the kind of surgery done in human practice, but it seems to me, while holding to that ideal, we should endeavor at all times to be practical.

I recall my first experience in the removal of such a tumor. I removed it well back into the surrounding tissue. Healing took place in time, but when it came I could have put my fist into the depression on that horse's shoulder.

Another time I had a bunch of mules in a grading camp that presented a number of these tumors. We made crucial incisions so that every part of the tumor could be drained. At the angle of the incision we removed a small part of the fibrous mass. These were dressed first with a dressing of sulphate of zinc and in four weeks they were able to bear the collar. I have had them able to bear the collar in two weeks after this treatment.

The question of how long an animal should be out of service is a very practical one.

H. JENSEN: The method of extirpation, practical in a city practice, would not be advisable in the country. I presume that the average practitioner, until he becomes familiar with the treatment of these deep-seated tumors, would not have success.

Dr. Hughes told us, while I was in college, of a method consisting of evacuation of the pus and filling the vacuum with turpentine and oil to bring about healing of the tissue. In these cases there is always a greater or less collection of serum in these tumors.

A good many years ago I had opened a tumor, and one day, just as I was ready to go into the country, the gentleman came to me and wanted something to put on it. I gave him a desiccating agent and he applied it and it became so indurated that it was beyond the ordinary. I followed it down, however, and the pus had either been absorbed or hardened and I had a solid tumor. I could see nothing to do but to cut it out. I did so and it was all of that summer and part of the winter in healing.

I have followed the treatment I have suggested for a good many years, but recently I have changed it just a little. For the first twenty-four hours after the removal of the pus I have only a small external opening, but the internal I enlarge. I pack it with a solution of iodine, not so much to disinfect as to cause a little stimulation. Then turpentine and cotton seed oil (equal parts) bring about normal conditions in about ten days. I am not prepared to say that every animal will be ready to go to work in that time, but the animal appears normal. Induration may take place and in my experience it is necessary to keep it open until it is healed.

R. R. DYKSTRA: The thing that I wanted to bring out particularly was that while this operation is not especially recommended for everyday procedure, for the valuable animal, the one that the owner does not wish scarred, it will be found very successful. By the method of operation I have recommended, taking strict antiseptic precautions, and carrying out the technic of the operation, you will not have any scar that can be detected. The ordinary work horse's value is not materially lessened if he has a little scar, but that of the valuable thoroughbred is. By this method you get healing by first intention.

C. E. STEWART: There are two classes of tumors. One has pus and the other is the variety you find in the grading camps. That class will never be cured until you get them out. Then there is the class that Doctor Jensen mentions where you simply open, let out the pus and get healing. Each speaker should specify the class of tumors to which he is referring.

J. W. GRIFFITH: Last Sunday I was called out to see 23 grading mules. They had tumors and black scabs. I dissected them out and put on iodine and dry dressings. I do not think that turpentine would be applicable to these, as they cover nearly the entire shoulder in some instances,

nor do I believe the operation describe by the essayist applicable here.

D. H. MILLER: I remember one of the questions of the school examinations used to be whether these cases—the deep-seated levator humeri kind—were tumors or abscesses. Sometimes they are so deep that one thinks there is no pus at all, but keep going, and the knife will pass through a mass so hard that it can scarcely be cut, and then finally a little pus is reached.

I follow about the procedure outlined by Doctor Jensen—open them up, break all the sinuses into one, then soak with turpentine and oil, equal parts. I have followed that all my life and have had such uniformly good results that I do not see any necessity for changing the method. I always succeed in reducing them without any bad effects or enlargement.

L. U. SHIPLEY: In country practice you will find some horses that are bruised and a collection of serum results. I have not heard that condition mentioned, and yet it is very common. When they are opened one finds broken-down tissue. Certainly removal of tumor is not indicated there because there is none. Simple drainage is all that is necessary. Collar bruises are also superficial, but the surgical method is the only way of getting rid of these. These levator-humeri tumors are in a different class.

E. G. PIPER: I think these can be produced by any bruise—not necessarily the collar. If you open them, whether they are deep or shallow, you will find a collection of serum.

T. A. SHIPLEY: I have never discovered serum in deep-seated injuries.

A. T. KINSLEY: I would like some of the surgeons present to define the word "tumor." Ordinarily we do not think of a tumor as an inflamed growth. Now if it is, we should know it, for in that case we shall have to change our classification.

I believe we are confusing two separate conditions—one in which there is inflammation and one in which there is not, simply a true tumor that originates apparently without cause. I should like to know just which condition is referred to by this discussion—whether it is the inflammatory, or the non-inflammatory, process.

S. STEWART: Unfortunately the older men in the profession do not always understand the nomenclature of the younger men, just out of college. In speaking of enlargements of the shoulder I thought the essayist included those large masses that appear under the levator humeri, and present a dense fibrous growth, so dense it may creak under the knife, and the walls of which are sometimes an inch or more thick. If one cuts through to the bottom of it he will find some fluid—ordinarily pus. If that is not included in the essayist's discussion, then I think we should understand just what character of growths it is we are talking about.

In the operation such as I have suggested there is scarcely any scar left at all. Ordinarily one has to hunt for the injury. Excision of a small portion of the skin at each side and then excision of the tumor will lead to the little pocket of pus and then drainage is instituted and with the application of sulphate of zinc healing takes place rapidly.

There are two or three men here who are giving special attention to pathology and they can perhaps help us to differentiate these conditions. We have heard of fibroma, myoma, carcinoma, etc., and I am wondering if we shall have to confine the term "tumor" to any specific growth.

Practical men can determine these things gradually and if we find it better for us to abandon this general term until we know what the growth is, whether it is proliferous or inflammatory, we will get to the specific term. I think we should be more specific in our classification of the anatomical structural changes that take place.

JAS. VINCENT: I have met a good many different kinds of tumors in the region of the shoulder, and have had quite a little experience in dissecting them. Without going into details as to the kind of tumors, I will give you my method of removing them.

In the case of a large tumor caused by the collar with a raw place on the shoulder; when it heals you want it to heal small.

Suppose you have just a round place without any hair, thick as your hand.

I will go above the raw place cutting from an inch or more above straight down, through the center, clear to the bottom, and until I come to the red muscle below. Or, go around it and take in all the raw surface, then go to the bottom and dissect out each way. In that way I can put my knife anywhere I want to between the healthy tissue and the tumor, and do not take out more of the former than I want to. If I begin with the skin at the top I may not take out enough or I may take more than enough.

After I have taken each side out I have quite a large flap of skin. I bring that down (or up, as the case may be), put in a weakened solution of iodine on cotton, filling it full. I leave the bottom open an inch or two (according to the size) so that in a day or two I can pull the cotton out below to give good drainage. I place the stitches so that when it heals it will leave a nice, smooth cicatrix that will not pucker.

Sulphate of zinc or white lotion given to the owner to inject will also aid rapid healing no matter what the exciting cause has been.

JOSEPH HUGHES: I am much interested in this discussion. In fact, the subject is one that is very near my heart—shoulder tumors in their various forms. I did not hear Doctor Dykstra's paper, so if in my remarks I should disagree with him, I hope he will understand that I am in no sense criticising him, because I have not heard his paper.

This term "tumor" to a common practitioner, like myself, indicates merely a new growth, and has no other significance. I do not know how to define it except to say that it is a neoplasm. Whether it is splint or shoulder fibroma, to me it is a tumor. Doctor Kinsley may tell us it is not inflammatory, but to a general practitioner to call any new growth a tumor, it is all right.

In the shoulder we assign them to three classes: the tumor known as the levator humeri abscess; the fibroma that occurs from collar pressure that is evidently subcutaneous; and lastly the tumors that occur on young horses from collar bruises or otherwise and are practically fluid collections.

These are the three forms you may safely deal with. The levator humeri abscesses result from inflammation of the lymphatic glands. The glands that lie under the levator humeri and a little to one side. There is a blood vessel there accompanied by small lymphatic structure. One of these is close by the collar, which readily sets up an inflammation that becomes an abscess.

As proof of that, we may cite the fact that it occurs only in harness horses and common draft horses.

On one occasion I was astonished to find, on being called to a farm, two such cases in two mares. They were raising foals, and had not been in harness for a year, so I could not understand why these growths should appear. I investigated surrounding conditions and found that they had been turned into a paddock, and in it there was a hay stack with a fence around it. And I found that the mares leaned against the rails of this fence to reach the hay and the constant rubbing had occasioned the injuries to the lymph structures.

A levator humeri abscess "comes up in a night." In the text books you will find them described as "cold abscesses." Now, to me a cold abscess is tubercular, the kind that you find in weak, sickly persons in the axilla, and when opened is found to contain pus, the skin is elevated but there is no inflammation. Now has that any connection with the levator humeri abscess? I do not think so, so I do not see how we can apply the term "cold abscesses" to these.

A levator humeri abscess comes suddenly on the side of the shoulder, and is as hard as a rock. When you palpate it to find out whether there is fluctuation, you usually find that there is none. A man takes the knife and makes up his mind that in the center of it there is a collection of pus, and if he can liberate it, and tampon the cavity, the thing will shrink and disappear rapidly.

The only thing you need to do is to puncture them to the bottom, and when you

get to the bottom you will find them bilocular or multiocular—two, three or four cells that you will need to break down, and you must make sure that you do this thoroughly and completely. If you do not, your efforts will result in failure. Having done that, I do not think it matters what you tampon with. My favorite mixture was given by Doctor Jensen. I have used it for thirty years. Treated in this way I find that one of these big abscesses will melt away as if by magic, *disappear in six to fourteen days*, leaving the shoulder as flat as it was before.

I find some surgeons using a cautery when they open these. That is not necessary. It is only necessary to open it and to drain it. There are no exceptions.

The fibrous tumor which Doctor Stewart mentions, the subcutaneous, fibrous collection adherent to the skin and the muscles underneath that sometimes grows to a big, flabby enlargement, are not as easily handled. I do not like to be asked to remove them in twenty to thirty horses. My method, however, varies in no particular from Doctor Vincent's. Instead of making Dr. Stewart's crucial incision, I make a longitudinal incision. Be sure in these cases to take out plenty of skin, because you have too much skin at the seat of the growth, and if you do not remove it you are sure to have a puckered scar. Take out all of the bad, raw spot, dissect the tumor vertically and remove it in the manner he has described.

After it has been removed you have before you the important matter of treatment. Perhaps we would all vary a little on that. If a man should put compresses on the skin he would cause rather prompt adherence. Shall you drain or tampon it? That is a serious question. I have had a number of cases in horses where I did not want a scar and I put on a padded collar, put an antiseptic dressing over the tumor, and attached the collar to the surcingle to hold it down and cause primary adhesion. It can be done very nicely by compression, so that the skin will lie in contact with the underlying muscles. It is sometimes four to five weeks before they will bear a collar.

With regard to the third form, there is little to be said. They are merely serous abscesses. Any ordinary incision into the abscess, liberation of the fluid and some days' rest, is all that is required.

I should like to hear Doctor Kinsley's views as to nomenclature of these conditions.

R. R. DYKSTRA: The kind of tumor I was referring to in my paper is what Dr. Hughes has described in his second classification—the subcutaneous, or cold abscesses, or whatever you choose to call them.

A. T. KINSLEY: Doctor Hughes has asked something a little out of the ordinary. I may have misunderstood him, but I believe he said it did not matter much what kind of an enlargement it was, if it was an enlargement it was a tumor. According to that, pregnancy is a tumor!

I will preface what I have to say by the remark that it is almost, if not entirely, impossible to define a tumor and differentiate it from other growths because of the fact that we do not know at this time its cause. Some recent work has been done along experimental lines, that would tend to indicate that tumors are closely related to inflammation and a certain class of them, perhaps, will prove to be inflammatory, but of different degrees.

A tumor is probably primarily the result of death of cells. From the dead cells there arises, or is liberated, certain chemical substances which in turn stimulate cell proliferation.

We have heretofore said that a tumor is a new growth, without recognizing the cause for this growth. This cause has not been recognized until recently. It seems possible that there is a chemical substance liberated when the cell is first injured. If that is the case, then fibromas and fibrous tumors are all one and the same thing except that they differ in degree, and the degree only signifies the extent of the injury.

To illustrate: these tumors are abscesses. They have been described, have been discussed, and experiments performed that have proven that a bruise, as the collar bruises the shoulder, destroys cells. These

cells, during disintegration, liberate a chemical substance that we recognize in putrefactive substances. It may be introduced into a normal body and cause a tumor.

I cannot state definitely that a tumor is a new growth without recognizing the cause as at the expense of the individuals in which they occur, and that they are prone to secondary change and may grow in excess of the proliferation.

Jos. HUGHES: I said "new growth" instead of "enlargement"; but in practical, surgical diagnosis even pregnancy is not excluded from the classification of tumors. A physician who makes an examination of a foreign body in the abdomen has to consider the question of pregnancy. The question of whether he ultimately finds it to be pregnancy does not enter into the first examination. He calls it a tumor and then endeavors to differentiate whether that tumor is a pregnancy, whether it is ovarian enlargement, or whether it is neoplasm independent of the uterus.

H. B. TREMAN: I wish to ask Doctor Kinsley whether he considers an enlargement containing pus a tumor.

A. T. KINSLEY: No. That I should call an abscess.

J. S. ANDERSON: I well remember my first experience in levator humeri abscesses. At school we were told that we would have, perhaps, one a year. The first year in practice I had three. I remembered the suggestion of the professors in surgery and pathology along the line of treatment. The experience I have had has not been serious but interesting. I have liberated the pus and broke down the sinuses and curetted them.

I do not have much confidence in medicinal treatment. I think its influence is largely imaginary. I think cleanliness and free drainage is the secret of success. I make a good deep incision, somewhat like those already described but not so large, and take out the broken-down cells. Dissecting out these tumors is entirely unnecessary. Take out two to four ounces, and that is all that is necessary. Sometimes you find a little cavity the size of a peanut, and in other cases it will be the size of your fist. Evacuate them out and pack with an antiseptic. I rather favor an iodine saturated gauze. After that one dressing I find that they get along very nicely.

Then we have the shoulder cyst. These are sometimes three to twelve or fifteen inches around and hold half a gallon or more of serum. I consider irrigation and a good antiseptic the most practical treatment. In some of these cases I have seen bad results follow neglect.

As to the pathologic feature of these conditions: I will turn that over to some of the gentlemen more interested in that subject. My business is to *cure* them.

G. R. YOUNG: I remember a case I had in a fire department horse in this city where the cause was most obscure. But I finally found that the constant irritation when the harness is dropped onto the horse had resulted in this tumor.

This form of abscess, or tumor, is often as large as one's head and comes up suddenly. I always open and drain it and I think letting out the pus has as much to do with prompt recovery as any treatment you can institute. I just apply a biniodide of mercury blister. They shrink down to normal size and the animal can be put to work in five or six weeks without a trace of it. I have found that the cleanest method. If you cut and curette too much you have a lot of pus form and that does no particular good.

At the present time I am treating a pet dog, having a tumor on his neck. The owner was afraid that whatever we would do for the tumor would kill the dog. After I put the blister on he asked me what I expected to accomplish with it. Yesterday morning he telephoned me that the dog was becoming visibly smaller. He seemed to think that not only the tumor, but the whole dog, was shrinking! I told him that probably the hot weather was responsible for the dog's systemic condition. He was much pleased with the way the blister reduced the tumor, and I have usually found this the best way to get rid of a tumor.

S. STEWART: If Doctor Young were out in the country and had to treat these levator humeri tumors, he would not depend so confidently upon his biniodide

treatment. The sooner you cut them out the better. I have found that many veterinarians simply lose time with their blistering.

H. JENSEN: I remember a paper presented by Doctor Young some years ago, wherein he advanced the theory: If a blister is good for surface conditions it must be good inside. He applied it on gauze. I expect he has modified it some by this time.

Have you ever seen instances where in levator humeri tumors (I do not know that we are justified in so designating them where there is no induration, I think it is more of a compound) the pus had been absorbed. I have never seen it.

G. R. YOUNG: I think where the discharge was absorbed it was serum, not pus.

J. S. ANDERSON: I should like to ask Doctor Young if his contention is that the application of a cantharides ointment would destroy pus as effectually as a knife or curette. If that is so, why would it not do in appendicitis? There are many cases where you would like to remove pus quickly. I think it is doubtful if it can ever be removed without clean curettage.

G. R. YOUNG: I think Dr. Anderson's question was answered by Dr. Jensen. What I had was serum, not pus. I merely open to the depth of it and around the edges of the induration, apply the blister, and it disappears.

HAL C. SIMPSON: Dr. R. R. Hammond held for a good many years that where there is a tumor, the exciting cause of which is a bruise, it may be traced back to a case of distemper—invariably. Perhaps someone else has noticed that. You will if you watch for it.

H. JENSEN: It would be hard to find an animal that had not had distemper at some time or another, so I hardly see how that could have any effect upon the tumor.

Bacterin Treatment for Canine Distemper

By A. A. HERMANN, D. V. S., Littleton, Colorado

IN presenting this paper upon distemper in dogs, my aim is not to be profoundly technical nor mathematically exact but rather to present a report of typical cases with especial reference to bacterin-therapy and its apparent influence upon the severity and duration of an attack of this malady.

During the winter of 1910 the writer requested Dr. B. F. Kaupp to make an autogenous bacterin for distemper, as the doctor had previously prepared autogenous and stock bacterins for me which had proved highly efficient in combating septic conditions and contagious diseases such as equine strangles and influenza.

Doctor Kaupp placed at my disposal two preparations, the first, an autogenous bacterin made from a pure culture of the B. bronchisepticus, and the second, a mixture of the above with the addition of killed streptococci and staphylococci (several strains).

Case 1.—Show terrier, weight, thirty-five pounds.

History: Ill during entire week previous; with fever, loss of appetite, thirst, emaciation, abdominal pain and restlessness. The feces were fluid in consistency and of fetid odor. The owner had housed and fed a sick alley dog nine days previous to the attack of this dog.

Symptoms: Pulse 110; with temperature 104.4° F., respiration accelerated, muco-purulent nasal discharge, conjunctivitis, photophobia, nausea and diarrhea.

Treatment: One-half a Cc. mixed bacterin and four Cc. diluted nuclein solution hypodermically once daily for four days. One five-grain intestinal antiseptic tablet (Abbott) three times a day.

The animal was dismissed on the sixth day, as at this time the appetite was normal and practically all symptoms of the disease had disappeared. In this case the temperature dropped steadily from

the third day. There was no apparent increase of severity of any symptoms from the day following the commencement of treatment.

Case 2.—Collie, weight, thirty-eight pounds.

History: Was noticed to be ill the day before I was called.

Symptoms: Respiration accelerated, constipation, temperature 102.7° F.; pulse eighty-five, strong and full.

Diagnosis: Distemper with pneumonia.

Treatment: Warm blankets; castor oil, one-half ounce; tincture aconite and nuclein in four Cc. doses daily; as a precaution two-thirds of a Cc. of bronchisepticus bacterin was given on the first day. More definite symptoms of distemper was noted on the second, confirming my first suspicion of the presence of the malady; and the bacterin was repeated on the second and fifth days. Nuclein was given orally. Recovery.

Case 3.—Grade poodle, weight, eleven pounds.

Symptoms: Labored respiration; pharyngitis; stiff neck, with swelling extending over the pharyngeal region.

Treatment: The swelling was blistered and disappeared in three days; liquid food was given; later the swelling reappeared and became so severe that deglutition was impossible until it had again receded. One-third of a Cc. of mixed bacterin and two Cc. of nuclein were given. Recovery.

Case 4.—Boston bull, weight, fourteen pounds.

History: Ill ten days.

Symptoms: Broncho-pneumonia; diarrhea, corneal ulcers, nasal discharge, fever, accelerated pulse.

Treatment: Argyrol two-percent aqueous solution into the conjunctivae of the eye twice daily. Five grains of sulphocarbolates twice daily. Injection of nuclein and vaccine. Recovery was slow but was complete in fourteen days.

Case 5.—Show terrier, weight, thirty pounds.

History: This dog had developed distemper and had apparently recovered. A large abscess had formed at the throat and was pressing upon the larynx and pharynx.

Treatment: The abscess was blistered and later incised. Nuclein, four Cc., and mixed bacterins were administered for four days. Recovery.

In conclusion I may state that several animals have received carefully graded doses of bronchisepticus bacterin and later been exposed to distemper and none have been known to develop the disease.

With my limited experience I believe it to be of advantage to use nuclein to raise the number of fighting white blood cells, phagocytes, thus increasing the resistance of the animal. The bronchisepticus bacterin to raise the opsonic index against the causative organism is indispensable in combating canine distemper, both as curative and prophylactic, and the secondary invader, the staphylococci and streptococci which aid in causing the catarrhal inflammations should also be added to the bacterin as a curative.

Argyrol and nucleinate of silver in two-percent solutions, freely applied to the eyes in case of conjunctivitis and corneal ulcers have given excellent results in my hands.

In the gastrointestinal form a cathartic followed by the administration of the five-grain intestinal antiseptic tablets until feces are normal is quite advantageous and conduces very much to rapid recovery.

Oophorectomy of Cattle Without the Introduction of the Whole Hand Into the Abdominal Cavity*

By R. R. DYKSTRA, D. V. M., Manhattan, Kansas

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THE objects of spaying cattle are:

1. That they may fatten more readily. That they do this is largely because, after removal of the ovaries, the excitement incident to estrum is largely done away with, and the animal becomes quieter and more phlegmatic, thus utilizing more of the food for the production of flesh, instead of wasting it in the expenditure of useless energy.

2. To improve the quality of the meat. The beef from the spayed heifer is more valuable than that from the uncastrated female, being more tender and juicy, and as a whole, very closely approaching that of the prime well-fed steer.

3. To lengthen the duration of the lactation period. For this purpose the operation is performed about six weeks after the third or fourth calving. Although the expectations of the earlier veterinarians have not been entirely fulfilled, still the operation for this purpose has been sporadically revived and abandoned; at the present time it has again been relinquished and is seldom performed for this purpose.

4. For the relief of certain diseases of the generative organs and particularly the one referred to as nymphomania. In this condition the animal is very restless, with frequent bellowing and sometimes becoming so vicious as to attack people. The milk secretion is reduced, is of poor quality and frequently curdles when boiled. The ovaries are generally found to be inflamed, hypertrophied or cystic. Spaying is the most certain method of relieving the condition. Simple rupture of cystic ovaries, per rectum, is also recommended.

Albrecht operated on fifty animals with this object; forty-two were completely cured, in three cases the operation failed, and in five cases were only partially successful. After castration the character of the meat improves, the uterine ligaments become tense, and the milk secretion and the percentage of milk-fat is increased.

*Read at Annual Meeting, Missouri Valley Veterinary Association, Omaha, July 1, 2 and 3, 1912.

Former Methods of Operating

1. The method employed to a very large extent, i. e., laparo-oophorectomy, consists in making an opening about four inches in length, or large enough to admit the entire hand, in the region of the flank. After inserting the hand and grasping the ovary it is removed with an ecraseur, spaying shears or emasculator. The wound must afterward be closed with sutures.

This method of operating necessitates a large opening, with the subsequent opportunities for peritoneal infection or abscess formation in the region of the wound, or the adhesion of the rumen to the abdominal wall, resulting in digestive disturbances. There is grave danger, when sharp cornered shears are used, that the intestines will be injured or hemorrhage from the utero-ovarian artery result; in other cases all the ovarian tissue is not entirely removed, and frequently in making the primary incision one of the branches of the circumflex iliac artery is compromised, resulting in hemorrhage which is not necessarily dangerous, but which must be controlled before the operation can proceed, resulting in the loss of considerable time.

Charlier's Method

This consists in incising the upper vaginal wall, introducing the fingers, grasping the ovaries and removing them with an ecraseur. Modifications of this method have been recommended by Colin, Richter, Hurliman, et al.

This method of operating is unquestionably a valuable one, and is to be highly recommended in animals where the vagina is of sufficient size to admit the hand. It cannot be performed in young, or small animals; it requires a good deal of time to perform, but does not require much after-treatment.

Flank Method, with the Introduction of One Finger Only

For this procedure the animal should be in rather thin condition and preferably starved out. It is practically impossible, or at least very difficult to operate successfully if she is fleshy. It is to be borne in mind, however, that most of the animals presented for spaying are in the former condition. The instruments needed are a scalpel, a pair of six-inch curved scissors, and a pair of compression forceps.

The animal is cast in lateral recumbency with either the right or left side uppermost. The upper hind limb is drawn strongly backward; this is an important step, as it outlines the point of incision, which is made along the anterior border of the *tensor fasciæ latæ* muscle. The hair should be clipped and disinfected with any of the reliable disinfectants.

Before describing the operation I wish to call attention in a brief way to the anatomy of the parts involved: "The uterus of the cow is not so advanced in the abdominal cavity as that of the mare, neither is it so long or large. Instead of curving upward towards the lumbar region, as in the mare, it bends down in the direction of the floor of the abdomen. The broad ligaments are also larger than those of the mare. They are like a triangular web, one angle being under the uterus, and the other two angles are attached to the tuberosities of the ileum; the free margin measures about a foot." We may note from this that the free border is closely placed to the internal wall of the abdomen where our primary incision is made.

It has to be remembered that the ovaries are smaller than those of the mare, that they are situated near the anterior border of the broad ligament, and are about two inches only above the cornua; they are much less forward in the abdomen, and so loosely attached are they, that the fingers can readily draw them toward the field of operation.

Technic: After casting, placing the animal in the desired position, disinfecting, etc., an incision, about one and one-half inches long, is made through the skin, muscles and peritoneum. This incision is made along the anterior border of the *tensor fasciæ latæ* muscle, starting at a point about four inches below the external angle of the ileum, and extending downward for a distance of one and one-half inches. The index finger is passed through the opening thus made, into the abdominal cavity and directed backwards, where the border of the broad ligament can be distinctly felt; by pressing this against the inner abdominal wall with the finger it can be carried outward through the incision.

By carefully drawing up on the broad ligament, the uterine cornua and the ovary is brought into view, the forceps, preferably in the form of an eight-inch compression forcep, placed around its pedicle and the ovary cut off with a pair of scissors. By drawing up on the uterine cornua, still held by the compression forceps, and strongly pushing in the abdominal wall, the cornua and ovary of the opposite side is drawn outward and removed in the same way. If the animal is fat or not well starved, some difficulty may be experienced in this, or it may even be necessary to go in on the opposite side. Suturing is not required, because as soon as the upper hind limb is released the skin wound passes forward over the muscle wound, thus effectually closing it.

Advantages of this Method of Operating

1. No difficulty is experienced in locating the ovaries.
2. Postoperative hemorrhage is controlled because the ovaries are brought into full view, enabling the operator to place the compression forceps properly.
3. No suturing of the wound is required.
4. Digestive disturbances produced by adhesions of the rumen to the abdominal wall are obviated.

5. Peritoneal and wound infections are reduced to a minimum.

6. With a little experience this operation can be performed more easily than any other.

DISCUSSION

B. F. DAVIS: On the range none of the spaying is done by veterinarians. In Wyoming we have two men who make a specialty of this work. During the past season one of these men to my knowledge spayed between 1500 and 2000 animals. He is a very clever operator. His results are surprisingly good, the small number of losses being remarkable.

The method used with range cattle is something like this. The animals are run into a corral. The operator has a ground-down razor that is dull about half an inch from the edge. He has one man to assist him and four riders. The animal's feet are roped, he is thrown, and then one man moves each way until the animal is stretched out.

One man clips the seat of operation and another disinfects. The operator stoops over and makes one incision, and then a nick in the muscle, picks up the ovary and brings it to the outside and removes it the same as in castration of cattle on the range. As soon as he removes both ovaries, through the one incision, if the next animal is not ready he sits down. Many times another animal is on the way up to the spot before he is through with the first.

The third man takes an ordinary sack needle and makes a continuous suture, tying it and cutting it off. I believe he uses creolin solution to disinfect the wound.

This operator can spay 500 animals just as fast as they can be dragged to him. His method is very successful. I was told that he lost but three of all of the heifers he spayed last year. The method is crude, but he gets surprisingly good results.

A Case of Thrombo-Embolic Colic*

By DR. S. H. GALLIER, Norman, Oklahoma

JUNE 6th, 1912, I was called to see a 1700-pound, five-year-old, gray, grade percheron stallion.

The owner and attendant of this horse had been away for two days and had left the horse fastened in his stall, in the meantime he had been fed and watered by members of the family. Between nine and ten o'clock in evening of the second day the attendant watered and fed him and noticed nothing wrong. He ate and drank as usual.

At six o'clock the next morning I was called. It being only a mile out, I was soon there. From the appearance of the animal one would think he had been rolling a week.

Symptoms.—Profuse sweating, quick, sharp breathing, respiration forty-five to fifty per minute, pulse seventy-six per minute, wiry, temperature 104° F., continuous pains; he would frequently lay on sternum with front limbs under him and protrude neck and head, apparently trying to crawl; he was much bloated.

Treatment.—I removed gas with trocar and canula, passed a stomach tube, through which very little gas escaped, pumped a three-percent solution of septico into the stomach, and siphoned out, very little return except the solution; gave one one-ounce capsule of camphor gum, ammonium carbonate and carbolic acid, filling the capsule about two-thirds full of the camphor gum, finishing with ammonium carbonate, then filling with carbolic acid; gave an enema of warm soap-water with one ounce of potassium nitrate added to it, then followed with one and one-half ounces of chloral in one and one-half gallons of water, and gave two grains of morphine sulphate, hypodermically, one hour after the enema of chloral.

*Read at annual meeting of the Missouri Valley Veterinary Association, Omaha, July 1, 2 and 3, 1912.

The animal seemed to be somewhat easier, but was never free from pain. About two hours before death, he would not lie down nor stand still, but continued to walk. He died at 11:30 a. m., about six hours after he was found sick.

Postmortem.—I found heart and lungs normal, stomach normal with about with with about one and one-half gallons of food of normal consistency in it; the jejunum normal, ileum, posterior part slightly congested, first and second flexure of the great colon was severely congested, the inner coats of the wall was black and would rub off very easily, the contents of this portion was very bloody; cecum full, otherwise appeared normal. The balance of great colon and floating colon appeared normal. The liver, spleen, kidneys, urinary organs were normal. The contents of this affected colon contained myriads of very small worms.

What caused this animal not to show any symptoms of pain, and eat his feed and drink water freely the night before his death?

What was the cause of his death?

If death was due to inflammation of the bowels, why did he not live longer?

DISCUSSION

JOS. HUGHES: In my opinion anything in the nature of a colitis due to thrombosis produces death very rapidly.

K. W. STOUDER: During the past winter I found in the country districts of southern Kansas that where the cattle were allowed to graze in low-lying lands a great many of them died. Postmortem examinations showed thrombosis of the arteries of the small and large intestines, but not necessarily the worm which occasioned the thrombosis. I have seen probably 2500 such cases within a year. A week after death I have found this thrombosis in the arteries.

The animal referred to by the essayist I presume was not often pastured out, but that does not preclude the finding of the Strongylus armatus.

Recently I was called to see a mare with symptoms similar to those described. She had been at work in the field the day before. She got up and began walking around, and it was impossible to hold her; she soon dropped dead. We held a postmortem examination and found the thrombosis the only lesion. If you string out the intestines you will find anemic sections.

My opinion is that the severe pains of thrombosis cause the sudden death. When the anemia occurs it produces a constriction. I found one case where the intestine was just drawn down to a tube that apparently was a thick wall and nothing in it. It is my theory that, that causes intense pain. I believe it is possible for pain to produce death. I cannot explain it in any other way.

I have found thrombi where they have probably existed for days, pus in them of a thick, cheesy nature, and looking as if the parasite had lived there for weeks, but had not produced pain enough to cause death. I remember an occasion where nine animals were lost on one farm. They reported to me that one or two animals had had attacks but had recovered. They thought it was an infectious disease. You will nearly always find where cattle are pastured in a district with a dry gulch of low land through it, that this condition exists to a greater or less extent.

These parasites are probably carried by the water and then when it dries up they are left in the grass and find their way into the intestines when the grass is eaten.

JOS. HUGHES: To me it is difficult to attribute the death in the case described by the essayist to anything but the severe pain. When I find a case of extraordinarily severe enteric pain I think of thrombosis. When I find a horse dying within three or four hours I can almost make up my mind that I will find thrombosis of the colonic vessels.

We all know that shutting off the blood supply of any part causes extraordinary agony. The colonic vessel is part of the great mesenteric system. I believe in frequency of occurrence that thrombosis of the great mesenteric artery comes first, the small mesenteric artery comes second and the celiac artery third.

The great mesenteric not only supplies the small mesenteric but also the colon.

When you see the inside of the colon black as ink look out for parasites. Invariably you may find them.

I do not know whether the Doctor has observed great congestion of the lymphatics in which thrombosis exists. I have seen it extend all around the arch. Have you ever observed that accompanying this the lymphatics are bright yellow? I have often wondered what the explanation of that is.

I agree with the statement that sometimes the thrombosis is several days old, although it would scarcely appear possible.

B. F. KAUPP: I am much interested in this question of strongylosis. In the last four years I have not held any autopsy on a horse in which I have not found strongyli in the intestines.

During the last two years I have not held a single autopsy on a horse in which I have not found aneurysms or strongyli, but I have found the larvi in the vessel. Perhaps many of these cases died of thrombo-embolic colic.

We must not lay too much stress upon finding of thrombi unless we find the conditions stated by Doctor Hughes, unless we find the bowel and contents dark, indicating that the interference with the circulation has been a factor in causing death. Doctor Loss has said that there is one kind of strongylus armatus that passes its parasite stage in the blood vessels. Whether he will prove it or not I do not know.

We are too lax in holding autopsies. I believe we should be more careful in recording our findings. I should like to ask Doctor Stouder if the dark condition of the bowels is a uniform symptom.

K. W. STOUDER: I cannot say. I have made some autopsies where the carcass was as much as thirty days old, so I could not state positively. We brought to the college a piece of the intestines, a large triangle of the mesentery going up to the aorta without the aneurysm in some instances, with thrombi in others. We attributed death in five mares to that trouble. We brought these intestines in to have a better opportunity to go over them. They were all black, but the carcass was dead too long for us to say whether it was present at the time of death or not.

When I see an animal die within thirty minutes from the time it was taken sick, and the intestine shows appearance of simple venous congestion, it is not black. I believe if the animal lives with the congestion it would have the appearance of a strangulated hernia.

In the specimens brought to the college I believe the secret was found (in one case, at least). The wall was just dotted over with little patches where the worms had been living. Probably two or three times as thick as it should be and evidence in the mesentery of a great deal of thickening and the lymph glands enlarged. I think there will always be found congestion. The cases I saw had been dead all the way from one day to thirty days, so I cannot give a very positive record of the findings.

A great many veterinarians are now looking for this trouble and some of the men who see the cases quickly should soon be able to tell us just what the classic findings are.

C. H. STANGE: There has been quite a little complaint throughout Iowa, and sections of Illinois and Missouri of deaths from thrombosis. Most of these outbreaks are in low-lying pastures. There were a number of reports of sudden deaths and with these reports usually came the report of a reddish worm being passed with the feces.

We prepared quite a number of doses of atoxyl and sent them to those who reported this condition and have had excellent results from its use, so that I think it may be worth your while to try it. It may be used either hypodermically or intravenously.

I am not going to attempt to explain how it acts. It has been used quite extensively in Europe, and so far as I have seen the reports, very successfully.

As I understand it the Strongylus armatus is different from the Sclerastoma equinum, which is the mature parasite found in the intestines, and the larvi of the same parasite works its way into the vessels and causes the thrombosis and the one that produces the damage is the one that works its way into the circulation.

The Strongylus armatus is an avid blood sucker and produces a severe anemia. Seen under the microscope it will be found to have different head parts from the Sclerastoma equinum. If that is the case, then the transitory stage of the larvi has not yet been determined. If this theory is correct, then it is just as possible for them to pass through the lung and into the brain as it is for them to pass through the anterior mesenteric artery.

W. W. DIMOCK: Has anyone present ever found the Sclerastoma equinum in the artery and not found the Strongylus armatus in the intestines? Sometimes they are an inch and a half in length. There is a difference in the form and there is a difference in the anatomy of the heads of these parasites.

B. F. KAUPP: Doctor Loss has done a great deal of investigative work in Egypt and he states that instead of usually finding the Strongylus armatus in varying stages of development in the intestines there are some nineteen different species. Some of these are an inch and a half to two inches long. That is the female. The male is not so long. Of that group we have them only one-half to three-quarters of an inch long. The larvi is supposed in certain respects to have similar anatomical structure in the embryonic and the adult stages.

We must bear in mind that we have several species. I have found the adult in the blood vessels. I have seen thrombosis in which the Strongylus armatus was found in the cecum and the Sclerastoma equinum not found.

New and Successful Treatment for Azoturia

By R. W. McCRACKEN, M. D., and M. R. STEFFEN, M. D. C., V. S.
Milwaukee, Wisconsin

AFTER a period of experimenting covering nearly two years we are able to give to the veterinary profession a limited resumè of results with a new treatment for azoturia.

We say limited, because we do not intend to make public at this time the agent which in our hands has been almost as satisfactory in the treatment of azoturia as has been the air treatment in parturient paresis of cows. We feel that we are entitled to certain monetary benefits that we may derive from the sale of our product for a limited time, after which we intend to make public our method in its entirety.

We refrain from the use of the word formula, because we are not in possession of any formula. Our agent is along the lines of physiological chemistry based on the theory which we have worked out regarding the pathology of azoturia.

When we began these experiments in the latter part of 1910 we had no intention of entirely changing the accepted line of treatment for azoturia but contented ourselves with an attempt to establish a sane theory for the pathology of the disease. We succeeded without much difficulty in exploding one of the existing theories after another, including a few which we elaborated in the course of our own experimental work. The end of the winter of 1910–11 found us with but little encouragement for further research. Hot weather put an end to the work and we had found nothing except what we already knew regarding antemortem and postmortem changes.

It was then that we decided that the theory of the development and progress of azoturia must be worked out on theoretical lines in the literal sense of the word; along lines depending upon conditions with which we were already conversant in other diseases. By the time the cold weather of 1911–12 came on, with the usual run of azoturia cases, we had worked out a theory which has defied explosion and along the lines of this theory we worked out the treatment mentioned in the beginning of this paper.

That the treatment was successful from the very first case in which we tried it

until the last, when warm weather again stopped the appearance of azoturia, is proof that our theory is reasonably correct. Based on physiological chemistry as influenced by this theory and doing its work correctly as such, it is proof against the charges which might possibly damage more crude agents of our materia medica.

To be more explicit, our process consists of supplying the animal body with an agent which under normal conditions it constantly elaborates itself (in a slightly altered chemical combination) but of which, in azoturia, it finds itself unable to supply a sufficient quantity to maintain the functional equilibrium which the disease has disturbed.

Our theory is, and our success with the treatment based on this theory proves its soundness, that the condition is a mechanical one entirely, if we may use the word in this sense. We mean by this that toxines, enzymes, bacteria, ferments or extraneous forces of any nature whatsoever have no hand in the production of this disease.

The theory which nearly every veterinarian, with whom we discussed this, suggested as the most plausible was that azoturia is a toxemia. In the summing up given below we make special mention of this to show how the symptoms in certain stages of this disease absolutely exclude toxemia as a cause of azoturia. To come to the point, we believe that the condition in azoturia is first a viscosity of the blood; later, if the condition does not abate, genuine clotting or thrombosis in the vessels of the parts involved. Death occurs either early as the result of embolism, or late from decubitus and its accompaniments. Carefully follow the form below, in which we work out the theory.

1. A horse at rest a number of days on full rations.

2. A modified atony of the muscular coats of the vessels results, accompanied by a hyper-nitrogenous condition of the blood and internal secretions.

3. In adverse ratio to this atony is the accelerated tone of nervous elements, causing the horse to "feel good" as it is commonly expressed.

4. When this horse is put to work he is keyed up to the highest pitch as regards volition, in other words, he has ambition forced upon him by the heightened tone of his nervous system. (Here could be inserted the reason why the disease does not occur or is so rare in summer.)

5. Responding to this stimulation the cardiac action as a result of a few minutes' exercise assumes the force which it would under normal conditions attain only at the end of the most strnuous exertion, at running or severe pulling in harness. This does not produce objective tachycardia because of the flaccid condition of the muscular apparatus of the vessels.

6. Of this atony or flaccidity the vessels in the extremities are the last to recover; in fact, if the horse is not stopped at once they do not recover. Gravity plays a slight part here.

7. Soon there is a real blocking of the circulation in these parts.

8. The large muscles in the region attempt to assist the vasoconstrictors; they contract in a firm spasm around the vessels, thus bringing about the swelling in the gluteal or the brachial region.

9. From viscosity to thrombosis is a short step. The patient goes down, and if thrombosis has occurred and the clot is not fixed the patient is dead in a few days from embolism, dying with symptoms of apoplexy.

10. When the condition is less mild, halting at viscosity, the patient recovers or lingers along and finally dies from the various results of prolonged decubitus. (A good example of a very mild case of azoturia we experience when we sit a long time in one position and a leg or an arm "goes to sleep."

Theoretical proof of our theory and proof of the absolute falsity of the theory of a toxemia lies in the following:

If this horse is exercised very mildly and then allowed to rest for a half hour before he is put to work, thus allowing the muscular tone of the vessels to regenerate itself preparatory to prolonged exertion, the disease does not occur.

We will go still farther and say the horse instead of being first exercised, is at

once put to work and is attacked by the disease, but the driver stops him as soon as he sees the symptoms coming on. We all know that this horse will not go down and will recover with no further treatment than absolute rest. This, because it gives the circulatory muscular apparatus an opportunity to revive and fortify itself before the vessels are pumped so full of blood that absolute or practically absolute stasis occurs.

When this stasis occurs and the patient goes down, we can do one of two things. We can treat the case symptomatically, expectantly, taking a chance on satisfactory lysis as has been our only method heretofore, or we can by proper means hasten the solution of the impeded contents of the vessels and allow them to resume their function. The latter is our method.

If this were possible by merely constricting the vessels we would require nothing more than adrenalin. Some cases have been reported in which adrenalin effected a cure; these were undoubtedly cases in which it was merely a question of viscosity. No thrombus had as yet begun to form on the walls of the vessels. What is required is a solvent which acts on the blood itself; this is what we use.

We intend to place our product in the hands of a manufacturing chemist for a time, and announcements will soon appear in the various veterinary journals telling of whom the product may be obtained and at what cost.

Below we append reports of the four most aggravated cases in which we have employed it. Quite a few others were treated, but they were not such well advanced cases.

Case 1.—A black percheron gelding belonging to Mr. W., went down after going about two miles; was violently delirious. No attempt made to control delirium as is usually done with the old lines of treatment. The urine not drawn. Patient was up in twenty-eight hours. The delirium ceased after the second hour.

Case 2.—A black grade, gelding belonging to Mr. A., went down after going less than a half mile; was very delirious; one of the worst cases it has been our lot to see. This patient was up in fourteen hours; the delirium lasting only till the third hour.

Case 3.—A bay gelding belonging to Mr. S., went down after going a mile and a half. Also a very well-developed case. This patient got up after exactly twenty-four hours from the time treatment was first commenced and was not delirious after the first dose.

Case 4.—A bay mare, pure-bred Clyde, belonging to Mr. B., went down after a very short jog. Was apparently in a comatose condition upon our arrival. This patient was up and entirely well in twelve hours.

The Relation of the Lymphatic Glands to Postmortem Examination

By D. I. SKIDMORE, D. V. M., Dayton, Ohio

OUR veterinary colleges, in the past, have been sadly lacking in the attention given to the lymphatic system and its relative importance in tracing pathological lesions, and even to this good day they are evidently not overestimating the significance of this circulatory and filtering system.

It is astounding how many supposed competent practitioners are utterly unable to so much as locate even one group of visceral lymph glands and give their names. It was not until the publication of Sisson's anatomy that the veterinary profession had access to any English authority on the lymph system which gave a clear description of the location and names of the different groups of glands, but since this excellent work so vividly describes and so unmistakably locates these

glands and their afferent and efferent vessels there can be no excuse for the veterinarian who is not familiar with the system from an anatomical point of view. It is to be regretted that our works on physiology and pathology do not give this subject the consideration it deserves.

Veterinary Inspectors in the Bureau of Animal Industry have an excellent and exceptional opportunity to familiarize themselves with this system and its importance in the proper consideration of pathological lesions, and should there now be a Veterinary Inspector, who is unfamiliar with the system in detail, his position is indefensible.

In every postmortem examination the veterinarian is called upon to hold, he should, by all means, examine, and in most cases incise, the lymph glands, in order to observe any pathological condition that may be therein, or within the field which any particular group drains. These glands may not only reveal the disease but they will aid in determining to what length the disease has traveled, e. g., suppose we find a pathological lesion of some nature in the submaxillary lymph glands, it will be best to also observe the supra- or retropharyngeal glands, the middle cervical, and the prepectoral glands, we will often find lesions in each of these groups in the chain and nowhere else, showing that the point of infection was within the field drained by the afferents of the submaxillary glands.

Tuberculosis, actinomycosis, cholera, etc., have frequently been found to appear successively in the glands of this chain as well as other similar chains. The writer has frequently observed actinomycosis in the retropharyngeal glands and in the atlantal group, while the submaxillary group was free from infection. Likewise the tongue will often be found infected, in conjunction with the above glands, while the submaxillary glands are free. Thus it will be readily seen that should we find lesions in the retropharyngeal glands it is well to examine the tongue, buccal membranes, etc., drained through these glands, should we wish to determine the extent of the lesions. By the same token it would be well to examine the next group of glands below the ones we first find infected. This procedure is useful in determining the extent of local infections only. It is obvious that every group of glands, with their corresponding organs, should be examined to determine the extent of a generalized infection.

This brings me to the primary excuse for this article, viz., the very great importance of examining the lymph system thoroughly on autopsies following the application of the tuberculin test.

Casual or haphazard postmortem examinations have done more to discredit and condemn the tuberculin test than any other one cause, consequently it behooves the profession to first honestly and correctly apply the test and then to efficiently examine the animals autopsied. Many tubercular animals have been overlooked by the practitioner for want to sufficient knowledge of the lymph glands, and of the proper method of examination.

It is highly important that the lymphatic glands should be not only examined but in case the postmortem examination is following the tuberculin test, the glands each one of them, should be incised, freely and sliced in very thin slices through and through. This is most important and I wish that all veterinarians would realize its urgency, as they must eventually, for frequently a very minute and single lesion in a single lymph node is all there is to be found. It is obvious, therefore, that all organs should be palpated and incised thoroughly in order to preclude the possibility of overlooking slightly affected animals, more especially when reacting to the tuberculin test and when the virtue of the same is in question.

He profits most who serves best; discuss the problems, the cases that arise in your practice; submit questions of diagnosis for the discussion of others and send us comments on the case reports of others which are published; use the journal for the greatest good for yourself and others.

Unexpected Fatalities in Practice*

By W. J. MARTIN, V. S., Kankakee, Illinois

THE above subject having been assigned to me by our worthy Secretary, brought forcibly to my mind that trite maxim that in human affairs it is usually the "unexpected" that happens. In the practice of our profession we are often brought face to face with this proposition, the "unexpected." And it could not well be otherwise, when we come to consider the fact that the science and art of veterinary medicine and surgery has not yet been reduced to an exact science and art to the extent that human medicine and surgery has, and it is a question in my mind whether it ever will be, yet unexpected fatalities do occur with much regularity in the practice of our colleagues in human medicine. Hence, we must expect to go on making greater or less errors in diagnosis and prognosis that will as a rule end in unexpected recoveries or fatalities. When you consider the enormous difficulties under which we are often compelled to labor in trying to arrive at an exact diagnosis or prognosis of a sick or injured animal, the wonder has been to me, how few mistakes yearly are made by the competently trained veterinarian in an extensive general practice. It certainly speaks well for his ability as a professional man.

At this time I merely desire to call your attention to a few of the many conditions that may lead to unexpected fatalities in practice. Entrance of air into blood vessels during the administration of therapeutic agents does occur in our practice, though fortunately it is comparatively rare, but when it does occur, an unexpected fatality of a peculiarly disastrous nature to the professional reputation of the practitioner also occurs. We should be exceedingly careful in intravenous medication.

The administration of anthrax and blackleg vaccines will sometimes cause the original diseases when administered as preventatives to healthy cattle, and will of course add largely to the list of unexpected fatalities. This accident occurs but seldom, but it does occur with sufficient frequency to warrant the practitioner in taking proper measures to protect himself against pecuniary damages. In severe cases of indigestion occurring in fat, heavy horses, quite often the subjects of fatty degeneration of the liver, rupture of this organ will occur during the violent struggles of the animal while suffering from the attack of colic, and yet a fatal termination may not occur for several hours after, when to all appearance the animal has fully recovered from the attack of indigestion. Again, take the case of a horse that has just passed through a severe attack of one of the various forms of indigestion and has been repeatedly drenched with various medicinal agents by the owner or other amateurs, before the arrival of the veterinarian. The animal will quite often to all appearances make a perfect recovery from the colic, and yet die in a few days from mechanical pneumonia due to the improperly administered drenches of the amateurs. This is a common form of an "unexpected fatality."

Not long ago I had an experience with just such a case. The patient, a farm draft horse, was taken sick after he had eaten his noonday meal, with what the owner thought was a severe attack of flatulent colic. He at once gave the animal a drench composed of one ounce of powdered Jamaica ginger mixed in a quart of warm water, the horse made a rapid recovery from the colic, but died in a few days afterwards of mechanical pneumonia. This horse had not received any other medicine or drenches but the ginger mixture, and it was hard for me to convince the owner that the drench killed his horse. When you are called to see a case of colic of several hours' duration, and you find that the animal has been indiscriminately

*Read at meeting Illinois Veterinary Medical Association, Springfield, July 9, 1912.

drenched with various mixtures, it is just as well for you to be guarded in your prognosis, otherwise you may have an unexpected case of fatality on your hands.

An unexpected fatality that recently occurred in my practice was the case of a strong, healthy two-year-old colt of the draft type, affected with a large carcinomous growth on left foreleg, involving the pastern joint. The animal was very vicious, owing to repeated attempts of the owner to remove the growth by the application of caustics. The animal was so vicious that removal of the growth by surgical procedure was only possible under chloroform anesthesia, and the owner was instructed as to the proper dieting of the animal for a few days previous to the operation.

This he paid no attention to, for upon my arrival at his farm, I found my patient contentedly grazing in an adjoining pasture. I refused to perform the operation, but the owner insisted so earnestly for me to go ahead and perform the operation, regardless of consequence, that I finally consented. The colt was carefully and easily cast in an open field, its head placed in a position to receive plenty of air. Great caution was exercised in administering the chloroform, giving it very slowly. After taking a couple of deep inspirations of the drug, the colt gave a slight struggle and was dead in less than a minute. Less than a half ounce of the drug had been used, out of the chloroform container. Postmortem examination gave no evidence as to the sudden cause of death, other than a stomach and intestines full of grass. The animal was simply asphyxiated by the drug. It shows the unwisdom of attempting general anesthesia with chloroform without having the animal in proper condition for this anesthetic.

Another case of what was all but a fatality was a large draft mare, weighing nearly a ton, with carcinoma of the left eye and orbital cavity. This mare was suckling a foal and was a very heavy milker. Like the previous case my advice had been disregarded as to proper dieting, and the mare had been permitted to graze all night in the pasture the night previous to the day of the operation. On arriving at the farm, which was a long distance from my office, and seeing the plethoric condition of the animal, I refused to operate, and also informed the owner that he would have to pay me for my journey.

As in the previous case, he insisted that I should proceed with the operation, stating that he would assume all risks. Against my better judgment, I had the animal cast, after having her walked about for several miles to empty her out as much as possible. On attempting to administer the chloroform, marked syncope or fainting occurred, in other words, the mare fainted dead away. After reviving the animal, I waited for about twenty minutes, and again cautiously administered a small amount of chloroform, with exactly the same results. The chloroform was then abandoned and the eye removed under cocaine infiltration.

The animal made an uninterrupted recovery. This was the first case of syncope or fainting that I had ever seen in a horse, and I was much interested in the phenomena displayed, and accounts for the second attempt to administer the chloroform.

I have seen but one case like the above since. And that was also in a mare that was suckling a foal. Though this mare had been in my hospital for several days previous to the operation and had been carefully prepared for the anesthesia beforehand, the effects of the chloroform were nearly fatal. I have carefully observed the effects of chloroform on mares suckling foals, and find that as a rule, they stand the effects of the drug very badly and are very likely to end up in the unexpectedly fatal class when the operation is of a severe nature or the chloroform narcosis is persisted in for some time. A semi-unconscious state, aided by the subcutaneous injection of morphine and atropine, give the most beneficial results in these cases.

Bay, driving mare, ten years old, strong and healthy; while being driven to a buggy she became frightened at a street car and ran away; entirely demolishing the buggy and harness, and frightfully lacerating

(Continued on page 454)

AMERICAN JOURNAL of VETERINARY MEDICINE
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Anesthesia Compulsory for Veterinary Operation

A "VETERINARY Operation's (Anesthetics) Bill," which is being considered by the British Parliament at this time is arousing a very great interest among British practitioners. Briefly, the bill specifies that general anesthesia will be compulsory for eight operations upon the horse—castration, extraction of molar teeth, trephining, the operation for quittor, stripping of the sole, poll-evil, fistulous withers and enucleation of the eyeball. And general or local anesthetics will be required for line-firing, unnerving and removal of the *membrana nictitans*.

General anesthesia is also required for two operations upon dogs, namely, castration and spaying.

Another clause prohibits the castration of bulls or pigs over six months old, unless in the case of injury or disease.

The bill appears to have been prepared and presented for the consideration of the legislature without consulting the members of the veterinary profession and admittedly has some at least minor objectional features, for example, why should anesthetics be required for line firing and not necessitated for puncture firing or required for extraction of molar teeth and not compulsory for the operation for roaring? But the part that has provoked the greatest discussion and the most unfavorable comment on the part of our British confrères is the illegalizing of the standing operation for castration.

The veterinarians of England and Ireland appear to be quite evenly divided upon the question as to whether or not the standing operation is preferable to the recumbent operation for castration. To the American veterinarian the astounding part of this discussion is the revelation that in England the clamps and actual cautery are still in common use as a means of preventing hemorrhage after castration. The emasculator and ecraseur, principally the former, have so completely supplanted all other agents for arresting hemorrhage

after castration with veterinarians in this country that we can hardly conceive of the up-to-date man carrying about the old wooden clamps and applying them to the spermatic cord or searing the cord with a hot iron as was done twenty-five years ago.

Aside from the imperfections in this bill mentioned above most of us will agree that its requirements are a distinct step in advance for the veterinary profession and the enactment of such a bill in every state in this country would be an advantage to the qualified practitioners, eliminating, as it would, at once and for all time the gelder and his one-dollar fee for castrating colts, together with that class of peripatetic practitioners whose qualifications are insufficient to enable them to administer with safety anesthetics to any animals.

Such legislation would at the same time commend itself to the Society for the Prevention of Cruelty to Animals and to laymen generally.

NOTIFICATION OF DEATH OF ANIMALS

There is food for thought in the following abstract of a paper presented by A. H. Archer, M. R. C. V. S., at the Congress of the Royal Sanitary Institute at York, England, and published in the *Veterinary Record*.

That compulsory notification of the death of each animal which is intimately associated with the lives of human beings would play an important part in the preservation of health, there can be little doubt, and I venture to introduce this subject for discussion, especially as it has up to the present time received, with the exception of carcasses killed for food for man, but scant consideration.

It is common knowledge to veterinary surgeons practising in the country districts, that very many animals die—some of virulent or cantagious disease—and the carcasses are disposed of in a most haphazard manner, without any publicity being given to the fact, or proper precautionary measures taken, so that other owners of stock have no warning to prevent their own animals becoming victims in a similar manner. Also, it is equally well known to some of us that it quite frequently happens, when an animal shows signs of illness, it is dosed, or otherwise treated in a manner which causes the patient suffering, and is sometimes attended with fatal consequences. I will mention some cases illustrative of this which have come under my own personal observation.

1. Called to attend a cow in good condition, suffering from a sudden illness. As there was no improvement in a few hours, the manager had her slaughtered and dressed for sale for food. I saw the carcass, and expressed an opinion that she had been affected with anthrax, and immediately advised the butcher. The carcass was buried in lime, knives, etc., scalded, and, beyond a sow dying which had partaken of the offal, and the butcher himself getting a bad arm, no further trouble occurred.

2. Attended a farm to make a postmortem examination of a pig which had been found dead that morning. Two police officers were present when I arrived, and, as I afterwards discovered, a report had been sent to headquarters that it was a case of swine fever.

On seeing the carcass, I said it was, to the best of my belief, a case of anthrax, which proved to be correct, but as the police officers, in reply to questions subsequently asked, informed the authorities that I had seen the case, they (the authorities) were consequently led to believe that *I* had said it was swine fever. No precautions had been taken in relation to "anthrax" until after my arrival.

This case was distinctly traceable to dirt on acorns, as the medium through which the anthrax bacilli had been conveyed. These acorns had been picked up by villagers, and bought by the farmer for food for the pigs.

3. One very hot day in August a cow was observed to be ill, with what at the time was thought to be "sunstroke." Being in excellent condition the owner decided to have her slaughtered, the carcass was dressed in the usual way, on the premises, at the farm.

By the merest chance, later in the day I obtained a little of the blood, and by microscopical examination found it to be a case of anthrax. The owner was informed, but it was too late to prevent serious consequences to the butcher who dressed the cow: his life was despaired of, and although he did eventually recover he was "never the same man again."

Two sows were affected by eating a small portion of the blood or carcass, one of which died. The owner neglected to destroy the carcass immediately (this was before the existing regulations came into force), with the consequences that, when this was done, all the men, three in number, who assisted, became ill, and the owner himself, who superintended the process, suffered for months afterwards.

Of course compulsory notification would necessitate a rearrangement of the system of inspection. At the present time quite a considerable percentage of inspectors of animals are neither properly qualified, nor are they capable of making a reliable report from microscopical examinations.

I propose that stockowners should be supplied with a book of forms stating the course to be adopted when an animal dies, a form to be suitably filled in on the death of each animal, the cause of death being attested by the signature of a duly qualified veterinary surgeon who either attended the animal during life or made a postmortem examination. In cases of doubt a district inspector should be called in to give an opinion on the case.

The forms should be sent to a person appointed to receive them who should see that it is properly filled in and signed.

Conditions here are very different from those described above, but might not a system of notification be formulated for

the more thickly settled states that would aid in the control of infectious diseases of animals. We have a more or less imperfect system for officially locating glanders in most of the states, and tuberculosis and anthrax in most of them. But other infectious diseases of animals (excepting some of the parasitisms) are either officially ignored or handled in a half-hearted, ineffective manner to the very great loss of the agricultural interests of the whole country.

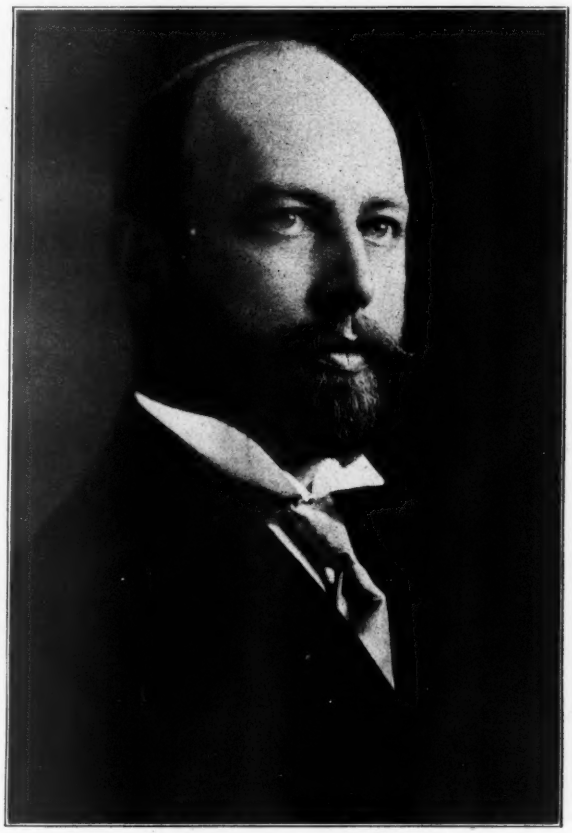
A GLIMPSE OF THE 1912 MEETING OF THE A.V.M.A.

The forty-ninth annual meeting of the American Veterinary Medical Association has passed into history. That much was accomplished, and history made at Indianapolis, goes without saying. Taken altogether, the meeting was a success, everything connected with it being gratifying except the attendance and the weather, which were disappointments.

Two thousand members and visitors should have pilgrimaged to Indianapolis to attend this meeting, and even in August we had a right to expect *some* cool days out of five, but instead the Indianapolis thermometers held altitude contests throughout the week and the visitors sweltered.

The actual attendance at the Indianapolis A. V. M. A. meeting was but little more than eight-hundred, comprising nearly four-hundred members, two-hundred-fifty visiting veterinarians and one-hundred-eighty ladies, but at that, the crowd was big enough for a good meeting, and the interest was at spring-tide all of the time.

The local committee of arrangements had matters well in hand at all times and there appeared no lack of funds with which to provide all the entertainment needed. Dr. E. M. Bronson at the registration desk and Dr. W. B. Craig and other members of the local committee about the corridors of the German House, were constantly on



JOHN R. MOHLER, A. M., V. M. D.

Doctor Mohler, the new president of the A. V. M. A., is one of the youngest presidents the Association has ever had. Receiving the degree of Bachelor of Arts in 1892; he was graduated from the Veterinary Department of the University of Pennsylvania in 1896. He immediately entered the Bureau of Animal Industry of the United States Department of Agriculture and began work as a field inspector in the quarantine department, and was later transferred to postmortem inspection at the abattoirs, then to the microscopic work, of which he was soon placed in charge, later becoming assistant to Doctor Norgaard, whom he succeeded to become Chief of the Division of Pathology, which position he now holds. Of all the officers of the B. A. I. Dr. Mohler has prepared the greatest number of circulars and bulletins for the time he has been in office. He has written that part of several encyclopedias which discusses the subject of meat inspection, and together with Dr. Adolph Eichhorn, also of the Pathological Division of the B. A. I., translated Endelmann's Text Book on Meat Hygiene. But his greatest literary work is his translation of Hutyra and Marek's "Special Pathology of the Diseases of Domestic Animals," of which he is also editor-in-chief.

duty and made every possible effort to provide for the comfort and convenience of those attending the meeting and thus contributed very much to the enjoyment of the occasion.

That the Association is growing and preparing for bigger and better things is plainly evident to all who attend the meetings regularly. The work of the Association is being done more and more by committees, whose members are selected because of special fitness for the duties involved, and an increasingly large number of these committees are of such a nature that the work must be carried on during the intervals between the meetings of the Association. The suggestion of VETERINARY MEDICINE that the Association employ a secretary on full time, and adequately remunerate him for his services, was very favorably considered and all but adopted. That such an action will be taken at the next or the succeeding meeting is certain.

H. JENSEN, PH. G., M. D. C.

Doctor Jensen is rounding out a varied and successful professional experience as Instructor in Pharmacy and Materia Medica in the Kansas City Veterinary College and in the preparation of a manuscript on Materia Medica and Therapeutics which will contain many of the original ideas and discoveries derived from his long experience in veterinary practice, as a druggist and as a teacher of pharmacy and materia medica.

The discussion of the Nominations Committee in VETERINARY MEDICINE following the Toronto meeting had marked effect, and the Association was in a better position to take intelligent action upon this matter, than they would have been, had the question not been discussed so fully. The temper of the members in this matter was shown when Dr. E. B. Ackerman of New York City made a motion to dispense with the service of the Nomination Committee in the future, which motion was carried almost unanimously.

It must be said, however, that the list of nominations presented by the Committee this time was quite large and but for the omission of one or two names acceptable to all. The nominations made by the committee for the various offices were printed and distributed several hours before the elections and this helped much in enabling the members as a whole to arrive at a decision as to whom they wanted for their officials. The election resulted as follows:

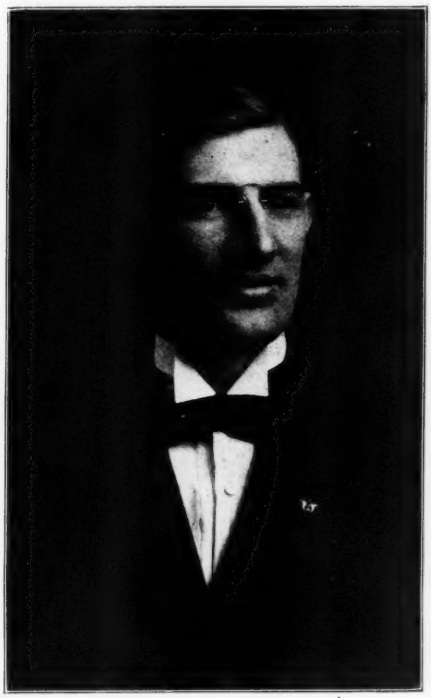
President, John R. Mohler, Washington, D. C.; first vice-president, G. H. Roberts, Indianapolis; second vice-president, John W. Adams, Philadelphia; third vice-president, H. Jensen, Kansas City; fourth vice-president, C. E. Cotton, Minneapolis; fifth vice-president, V. A. Moore, Ithaca, N. Y.; secretary, C. J. Marshall, Philadelphia; treasurer, G. R. White, Nashville; librarian, S. H. Burnett, Ithaca, N. Y.

The plan of electing a president a year in advance of his assuming the duties of office, as advocated by Dr. D. Arthur Hughes in a recent issue of the *Chicago Veterinary College Bulletin*, should be adopted. There is no president but would be glad of the year, thus allowed to get ready for his work, and the Association cannot but profit by this extra attention on the part of its chief executive officer.

The program of the meeting was good, admitted by all to be superior to that of any preceding meeting. Food for thought is supplied by attention to the residences of those contributing papers and discussions, as announced in the official program, which reveals the following: New York furnished twelve papers and seventeen discussions; Pennsylvania three papers and three discussions; Michigan, four papers; Canada, two papers and two discussions; Minnesota and Missouri, each two papers and one discussion; Kentucky, two papers; New Jersey, one paper and two discussions; Ohio, one paper and one discussion; Mississippi, District of Columbia, California, Indiana, Alabama, Arkansas, Wisconsin and Montana, one paper each, and Illinois one discussion. Thus, we have New York contributing approximately, one-third of all the papers and two-thirds of all the discussions and also two out of three of the Directors of the Sections.

GEORGE H. GLOVER, M. S., D. V. M.

Doctor Glover of Colorado, was chagrinned to learn, soon after his arrival in Indianapolis, that Professor B. F. Kaupp, Pathologist in his school, had resigned to accept a position in the research laboratory of The Abbott Alkaloidal Company. Dr. Glover spent most of the remainder of his stay in Indianapolis in interviewing applicants for the position vacated by Doctor Kaupp.



CHARLES H. STANGE, D. V. M.
Dean of the Veterinary Department, Iowa State College

Doctor Stange, Ames, Iowa, although one of the youngest of the deans of veterinary colleges, has succeeded in getting an appropriation of more than $200,000 from the State of Iowa for veterinary buildings and equipment; and regardless of its effect on the number of students, has raised the entrance and graduation requirements for the veterinary course in the Iowa State College higher than those maintained by any other veterinary college in the United States.

Among the resolutions of general interest adopted at the meeting are the following:

WHEREAS: The veterinary instruction given in agricultural colleges, to students pursuing the four-year agriculture courses, varies materially in different colleges, and whereas, graduates of certain agricultural colleges receive one-year time-credit in veterinary colleges, accredited by this Association, providing said graduates in agriculture have had sufficient veterinary science,

BE IT RESOLVED: that the president appoint a committee of three to outline such sufficient

veterinary science, and to recommend to agricultural colleges the extent and scope of veterinary science which this Association believes should be included in such agricultural courses.

W. HORACE HOSKINS, V. M. D.

Doctor Hoskins of Philadelphia, has belonged to the A. V. M. A. for thirty years and has never missed a meeting during that time. No one else, living or dead, holds a record for attendance at the A. V. M. A. meetings equal to this. Doctor Hoskins was Secretary of the A. V. M. A. from 1888 to 1893, and president from 1893 to 1896.

WHEREAS: Hog cholera has become very prevalent throughout the United States and Canada, and

WHEREAS: Much difference of opinion prevails amongst those who are endeavoring to prevent its spread and to eradicate the disease,

BE IT RESOLVED: That the Committee on Diseases collect and prepare scientific and practical data on the control of hog cholera to be submitted at our next meeting.

Recent changes in state boards, in some of our states, strongly indicate the dangers that confront our profession in either advancing or maintaining fairly high standards already established. We therefore recommend:

That the Committee on Legislation will continue their consideration and efforts to establish a federal licensing system in the United States.

RESOLVED: That we highly commend the Local Committee for the very excellent arrangements provided for this meeting, and especially for the extent and quality of clinics. And that we hereby tender them the thanks of the Association for their generous entertainment.

RESOLVED: That we sincerely thank the retiring officers and committees for their excellent and painstaking efforts in the administration of their various duties.

The general and special committees appointed for 1912-13 are as follows:

GENERAL COMMITTEES

Executive—A. D. Melvin, chairman; Sesco Stewart, Joseph Hughes, F. Torrance, H. D. Gill, D. F. Fox.

Intelligence and Education—E. A. A. Grange, chairman; Pierre Fish, C. H. Stange, W. B. Craig, A. R. Archibald.

Diseases—V. A. Moore, Chariman; L. Van Es, A. T. Kinsley, K. F. Meyer, C. M. Haring.

Legislation—W. Horace Hoskins, chairman; W. G. Hollingsworth, J. P. Turner, James Robertson, F. A. Bolser.

Finance—Thomas A Sigler, chairman; H. Preston Hoskins, A. S. Cooley.

Publication—R. P. Lyman, chairman; R. W. Ellis, George H. Hart, J. H. Blattenburg, Ward Giltner.

Necrology—O. L. Boor, chairman; S. Brenton, J. G. Wills, A. H. Baker, A. Bostrom.

Resolutions—W. H. Dalrymple, chairman; E. H. Shepard, George A. Johnson, S. H. Ward, George B. McKillip.

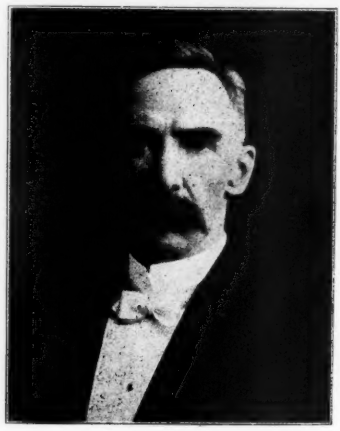
SPECIAL COMMITTEES

Revision of Veterinary Nomenclature—S. Sisson, chairman; I. E. Newsom, S. L. Stewart.

Veterinary College Investigation—Tait Butler, chairman; M. H. Reynolds, George W. Dunphy.

Agricultural College Education—A. M. Farrington, chairman; Paul Fischer, James B. Paige.

Advertisements of Veterinary Remedies—N. S. Mayo, chairman; C. A. Cary, S. B. Nelson.



A. H. BAKER, V. S.

"Pa" never gets too hot, and he never looses his temper. The intolerable hot days at Indianapolis could not "faze" him. He circulated about among the "boys" continually, wearing his coat on his arm and a smile on his face, and incidently put a thing or two over at the meeting whenever he tried.

Directors of Section Meetings—George H. Glover Section on Medicine; L. A. Merillat, Section on Surgery; Chas. H. Higgins, Section on Sanitary Science and Police.

At the request of the editor of VETERINARY MEDICINE a very important resolution was offered by Doctor Mayo and adopted by the Association, which provided for a committee to pass upon veterinary advertising submitted to them by farm papers.

As is well known, no reputable lay magazine now carries medical advertising. All of the better class of farm and stock journals refuse such advertising and newspapers are beginning to decline it. That nostrum medical advertising will soon be excluded from all reputable lay publications seems assured. This very desirable state of affairs has been brought about through the action of *Harper's Weekly, The Ladies Home Journal* and some other magazines, and by the American Medical Association, in exposing these fakes and frauds for just what they are.

The better class of farm editors are now asking if veterinary-proprietary-preparation advertisements in their columns are not on a par with the "patent medicine" for man. There is no authoritative body to answer these questions and it is the design of Doctor Mayo's resolution to create such a body.

The time is now ripe for bringing about a reformation in the policy of the agricultural press with regard to the veterinary proprietary manufactures and if this committee on veterinary proprietary preparations does its duty wisely, and the personnel of the committee seems to insure that it will, the effect of this resolution will be more far-reaching than probably any other action taken by the Association at this meeting. Millions of dollars are spent annually for veterinary proprietaries which not only do the purchasers no good but actually do them harm by creating a false sense of security and postponing adequate veterinary treatment until the time for the accomplishment of its greatest good is past.

Nothing else has contributed more to establishing the reputation of the American medical profession, as a scientific body and to discouraging the patronage of quackery than the exposure which has been given the nostrum frauds for the treatment of man. If the veterinary profession receives a corresponding amount of desirable publicity and credit from any action which may be taken to show up veterinary nostrums in their true light, its effect in eliminating the loss of income which veterinarians experience from the owner who medicates his own stock and from the mail-order horse-doctor, will be worth while, although this is the least significant of the results to be derived from this action.

A. T. KINSLEY, M. S., D. V. S.

Doctor Kinsley made a strong plea at the Indianapolis A. V. M. A. meeting for improved clinics in veterinary colleges. He contends that the much time devoted to the clinics in many veterinary colleges is all but wasted and maintains that no student should receive credit for attendance upon a clinic, of which he does not hand in a written report that is afterwards examined and marked and returned to the student. He says that canine diseases and canine operations receive relatively too much prominence in the clinics at most veterinary colleges, and that bovine and porcine clinics receive not enough consideration.

In one of the papers read at the meeting of the Association, that of Dr. E. M.

Rancke of Mississippi, it was advised that veterinarians boycott farm papers which carried "fake advertising of veterinary proprietary medicines." Such action must prove ineffectual since farm papers do not depend upon veterinarians for their support. Much more is to be hoped from an honest effort of the publishers of farm papers to rid their columns of objectionable advertising.

ANOTHER ATTRACTIVE EXHIBIT. OF THE A. V. M. A.

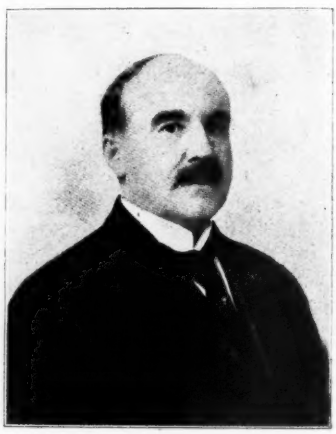
The new "Case of Good Judgment" on the right and the tablets and granules of divers sizes and colors kept a crowd of veterinarians constantly before this exhibit.

No description which we can give here of the papers read at this meeting can give an adequate idea of their contents or of the discussion following their reading. The whole will soon be published in the official report of the Association and will be obtainable (for $3.00) by all who desire it.

The paper of Dr. R. A. Craig on "The Efficiency of Antihog-Cholera Serum as a Curative and Preventive Agent" discussed at length the different hog-cholera serums at present on the market, condemning the products of certain private laboratories, without naming them. Such condemnation is, unfortunately, common, and without criticising Doctor Craig in particular, but only the custom, we may say that no product should be condemned except upon sufficient evidence. Good can result from the condemnation only when veterinarians are informed explicitly what products are found wanting. The custom of condemning certain products without identifying their manufacturers is manifestly unfair to concerns making good products, who must suffer from this condemnation through innuendo.

Doctor Craig stated, among other things, that only fifty percent of stock men favored the use of antihog-cholera serum, the other fifty percent being opposed to its use.

In discussing "The Problem of Hog-Cholera control in Missouri," Doctor Connaway emphasized the fact, as he sees it, that many veterinarians cannot diagnose hog cholera, and the further fact that infectious pneumonia seldom kills unless it is complicated by cholera. He urged that the hog-cholera virus be used only by state officials and asserted that the most necessary factor in the control of hog cholera is more and better enforced policework.



JOSEPH HUGHES, M. R., C. V. S.

During the recent A. V. M. A. meeting in Indianapolis Doctor Hughes made strenuous efforts to get a speech out of his system, seconding certain nominations, made in the selection of officers, but was foiled by Dr. H. Jensen, who presided at the meeting.

In his discussion of "Hog Cholera in Manitoba" Dr. C. D. McGilvray of Winnipeg stated that hog cholera in the Dominion occurs only in suburban districts and was traced in every outbreak in 1911 to the use of hotel slops.

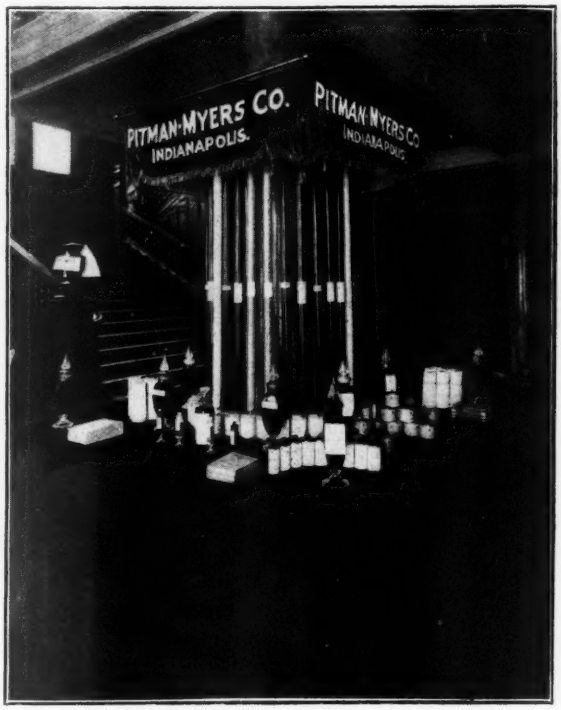
In Canada outbreaks of cholera are at once reported to the officials, stringent quarantines are established and the sick and the exposed animals are at once slaughtered. Two thousand and nineteen hogs were slaughtered during 1911 by the Canadian government.

Dr. M. H. Reynolds, in a discussion on "Hog-Cholera Immunization and Disappointments," expresses his belief that hog-cholera serum is successful only when properly made and properly used and stated that he had experiences, both satisfactory and disappointing, in the control of hog cholera in Minnesota, and that the cause of the failure lay more often with its use, than with the serum itself.

In discussing the "Nature of the Virus of Hog Cholera," Dr. R. R. Dinwiddie of Arkansas cited numerous experiments with the virus of hog cholera, which demonstrated that it exists in the blood, both in the corpuscles and in the serum, but was more plentiful in the former, which indicates that the infective agent is a protozoon and not a bacterium, since the latter are extra-cellular, while the former are by nature intracellular.

"Studies on Hog Cholera" by Dr. R. H. Wilson, consisted of a discussion on the use of the horse serum as a vaccine for the prevention of hog cholera; the horse serum being activated by inoculating the horse with hog-cholera virus. Numerous charts were shown, which demonstrated that this serum has a certain value and that the hope for developing from it a successful prophylactic for hog cholera is justified.

Doctor Salmon's illustrated lecture on Uruguay was one of the very pleasing and instructive features of the meeting. The vastness of the livestock interests of the little republic, as described in this lecture, was a revelation to American veterinarians.



ONE OF THE COMMERCIAL EXHIBITS AT THE A. V. M. A.

The most unique method of displaying pharmaceuticals that has been seen at any association meeting, was that adopted by The Pitman-Myers Co., Indianapolis. This display, on account of its central location in the main lobby of the German House, and also on account of its attractive appearance, was a center of social activity. The exhibit consisted of forty glass tubes about six feet long and three inches in diameter set on a large velvet covered table. The tubes were filled with fluid extracts, tablets and powders, and their clearness and pharmaceutical elegance were brought out by an ingenious arrangement of electric lights in the center of the circle. Stock packages of the firm's hog cholera serum, dusting powders and other preparations were arranged on the table.

The action taken at the Toronto meeting requiring accredited schools to maintain a course of not less than twenty-four months, beginning with the school year of 1913–14. Was modified to require a course of this length beginning with the school year of 1914–15.

This action provoked a great deal of discussion and received much opposition,

but was finally carried at the very urgent request of the representatives of a number of private colleges. There was a tacit understanding in granting this delay that no further request for a similar delay would be made in any subsequent meeting.

DR. E. F. MCGRAW, FORT SCOTT, KANSAS.
His hospital and equipment for getting to his patients.

A valuable service of the local committee was the daily bulletins of the meeting, which were issued for the local committee by the Swan-Myers Drug Company.

These bulletins were distributed each morning and gave the registration up until a late hour of the preceding night. It aided much in keeping the members and visitors informed as to who was in attendance at the meeting and enabled them to look up old acquaintances and make new ones.

The price of the banquet tickets this year was but $2.50 and the dinner served was a $2.50 dinner—worth the money.

A very large number sat at the banquet tables and enjoyed the good things and the after-dinner speeches which followed.

Dr. John W. Adams of Philadelphia performed the duties of toast master to the satisfaction of all. Among those entertaining the crowd with wit and humor, sense and nonsense, and all else that is enjoyed and expected and tolerated in after-dinner speeches, were N. S. Mayo, E. A. Grange, J. G. Rutherford, R. W. Ellis, Joseph Hughes, R. A. Archibald and W. H. Dalrymple.

The exhibits of the commercial houses, catering to veterinary trade, were more elaborate and more numerous than ever before, and so attractive that they kept a crowd always before them regardless of what part of the program was being enacted in the assembly room. There was some talk of excluding these exhibitions in the future from the building in which sessions are held, but it is not probable that this will be done, since many count these exhibits an educational feature of the meeting and would object to their elimination, to say nothing of the protests of the local committees at this separation from a convenient checking account.

It is understood that the next meeting of the Association, which will be the fiftieth anniversary of the foundation of the Association, will be held in New York City, where the Association was organized half a century ago.

Arrangements for an elaborate commemoration of this anniversary are already well under way and the Association voted the sum of $1500.00 to be expended for the purpose of securing for this meeting addresses from the world's leaders in

J. G. RUTHERFORD

Dr. John Gunion Rutherford, came all the way from Chilliwack, British Columbia, to respond to the address of welcome by former Vice-President Fairbanks, but who found to his dismay on his arrival that the Hon. C. W. Fairbanks was unable to appear at the meeting.

veterinary science. It is expected that a number of the leaders of the profession in Europe will be secured for this occasion.

In reply to the question as to what each considered the most noteworthy or important action taken by the Indianapolis meeting of the A. V. M. A., the following answers were received:

A. H. BAKER: I consider the symposium on glanders the most important part of the program of this meeting. In this symposium a number of very important things were brought out. First, that glanders is wide spread, over pretty much the whole country. It was reported from everywhere. Secondly, the laboratory worker is not able to assist the practitioner to any great extent in diagnosing this disease. Thirdly, the mallein test is still the most practical diagnostic agent we have for glanders, and, fourthly, the only way to eradicate the disease or even control it where it exists is to destroy all reacting animals. This is the way we handle it in Illinois and we have made very great progress, during the past decade, toward completely eradicating this disease.

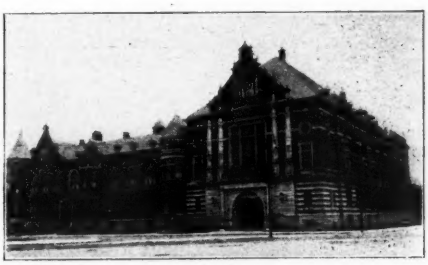
I just want to say also that the local committee deserve great credit for the excellent arrangements made for the meeting and particularly for the magnificent clinics, to which we have been treated.

HANS JENSEN: The most important action taken by this meeting was their wisely electing me third vice-president. [Doctor Jensen got away so quickly that we were unable to learn whether, in his opinion, the wisdom shown by the Association consisted in not electing him to a higher office or in electing him to the one for which he was chosen.]

W. HORACE HOSKINS: There have been so many noteworthy occurrences at this meeting that it is hard to decide upon a single one as overshadowing numerous others in importance. I think that the information brought out bearing upon the control of infectious diseases, and particularly glanders, means a very great deal to the livestock interests of the country.

The exhibition of good will and good feeling among those present augurs much for the future of the Association.

That the program included such a large number of papers and particularly that every single paper has been here to be read is a truly remarkable occurrence and in strong contrast to some previous meetings, where many of those on the program were conspicuous only by their absence.



THE GERMAN HOUSE, INDIANAPOLIS.

In the assembly rooms of this beautiful clubhouse the meetings of the A. V. M. A. were held. In the parlors and corridors the pharmaceutical, biological and instrument houses exhibited their goods. In the restaurant and adjoining summer garden, the "Dutch Lunch" and other meals were served. No building could be better adapted for the purpose of the A. V. M. A. meetings than this one.

S. STEWART: The scientific aspect of the program and of the meeting has been better than ever before and the educational clinical facilities unequalled.

The beautiful decoration of the ballroom at the Claypool, the night of the reception will be ever remembered.

MRS. W. HORACE HOSKINS: The entertainment provided for the ladies attending this meeting has been in every way entirely satisfactory and fully up to the best that we have seen at any previous meeting. To me the most enjoyable features of this entertainment have been the automobile ride and the card party.

G. ED. LEECH: The best entertainment provided during the meeting was the vaudeville stunt by Doctor Jensen during the election of officers. A close second to it in amusement afforded was the Dutch lunch and particularly the Dutch.

As for the scientific part of the program I think the whole discussion of the control of infectious diseases important.

DR. G. N. ROBERTS: I consider Doctor Klein's paper on "The Use of the Fermentation Test in Practical Dairy Inspection" the most valuable contribution to the

program and the most important subject considered during the meeting.

R. C. MOORE: There are so many commendable features connected with this meeting that I cannot begin to pick out a single one that pleased me most. I have

VETERINARY BUILDING, IOWA STATE COLLEGE.

The large building at the front and center is the administration building. Each of the smaller buildings on each side is occupied by a separate department of the college. The large building at the rear houses the hospital stables and clinic rooms.

been delighted with everything connected with the meeting except one and that is the plan of having sectional meetings. I don't like it. Where this plan is in vogue, no one can hear more than one-third of the papers read or of the discussions of them. It seems to me we waste too much time. I see no reason why we might not begin our morning session at eight o'clock or even earlier, just as well as begin them at ten o'clock or, as it often is, later. The afternoon sessions, too, might easily be lengthened. In this way I believe all the papers could be read in general sessions and no one be compelled to miss any part of the program, which he wanted to hear. I would like very much to see a return to the old plan of meeting.

D. E. SALMON: As you know I have not attended meetings of the Association during the six years that I was out of the country. And contrasted with former meetings I am struck with the large attendance at this meeting and the continued progress that the Association has made. The number of papers presented at the meeting is much larger and the papers a great deal better than at former meetings, which I have attended. Formerly the sessions used to be devoted mainly to business, with relatively little time given to the scientific part of the program.

M. H. REYNOLDS: The action taken by the Association looking to the registration of tuberculous herds by the United States and Canada, I consider a matter of very great importance and destined to lead to very material accomplishment in the scheme for the control of tuberculosis.

The report of the committee on colleges appears to be a noteworthy matter and a forward step in raising the standard of our veterinary schools and ultimately of the veterinary profession.

The action taken with regard to the fiftieth anniversary will contribute much to the success of our next meeting, which I believe will be a memorable one.

The hog-cholera symposium brought out much that is new. I consider the experiments undertaken by Doctor Dinwiddie of great importance and likely to lead to discoveries of much value in the field of hog cholera.

NEW BUILDINGS AT AMES

By F. W. Beckman

When Dean C. H. Stange and his associates opened the fall term's work in the new $200,000 veterinary buildings of the Iowa State College, they were housed in the largest and most complete institution of its kind, in this country or any other.

A good many new ideas have been worked out in the arrangement of the Iowa veterinary buildings. Each of the departments has been given a separate building so its work may go on without interference from other departments. Yet they are brought closely together by a covered passageway that connects all of the buildings, both main floors and basements. With this arrangement, the head of each department can be fixed definitely with responsibility for what goes on in his department, thus facilitating administration. The buildings with their connecting passageways surround a large inner court which makes possible perfect lighting and ventilation, always so important in veterinary college buildings. Every structure is lighted from all four sides and laboratories

and dissecting rooms have an abundance of light and fresh air. The whole set of buildings occupies a space 339 feet by 256 feet in size, the equivalent of a full city block.

There are five buildings in the entire group, three at the front and two at the rear. Some time later a sixth building will be added at the rear to house the research and experimental work of the college. At the center of the three buildings in front is the administration building, which contains the general offices, the library, an assembly room that seats 200, a large general museum and faculty rooms. On one side of this central building is the pathology and bacteriology building, and, on the other, a building devoted to the physiology laboratories and the pharmacy class rooms. The laboratories in both structures have complete and modern equipment.

At the rear stands the large clinic and hospital building, 163 feet by 61 feet, and the anatomy building. In the hospital building there is capacity for seventy patients, including kennels for twenty-two dogs and other small animals. There is,

MAIN COURT IN CLINIC BUILDING, VETERINARY DEPARTMENT, IOWA STATE COLLEGE.

The hospital quarters are on the left and the clinical amphitheatre, other operating rooms and the dispensary are on the right. The hospital is built so that it may be easily cleaned and disinfected.

also, an isolation ward for the treatment of contagious diseases. Throughout, this hospital building is constructed of brick, cement and steel, and every nook and corner of it may be thoroughly cleansed and disinfected. Every stall is equipped with slings. There are three operating rooms in this structure. The largest, 65′x 30′, opens into the inner court. This is used for the examination of animals

INNER COURT, SANITARY FOUNTAIN, HOSPITAL AND CLINIC BUILDING, IOWA STATE COLLEGE.

This inner court is 162 feet by 106 feet. The hospital building is 162 feet long by 60 feet wide and has three floors with a capacity for seventy patients.

as they are admitted and for minor operations and treatments. Adjoining it is a clinical amphitheatre and next to that is the third operating room for large animals equipped with a hydraulic operating table. Near by is a dispensary and instrument room and off of that the office and living apartments of the house surgeon. Throughout this hospital building is equipped with white enamel and glass instrument cases, operating tables and basins, while the small animal operating room looks for all the world like an operating room for humans.

Iowa has been generous with its veterinary school for several reasons, chiefly perhaps because Iowa is a great live stock state. Dean Stange estimates that the value of all kinds of animals in Iowa at the present time is not less than $450,000,000. He estimates, further, that there is an annual loss of live stock from preventable disease amounting to $10,000,000, at least. These facts are responsible for the building of a school to train veterinary doctors that measures up to the need. Unconsciously, the splendid building with its fine equipment and its strict cleanliness, must

teach veterinary students that their work is worth while, that its standards should be high, that it should be dignified, that it should command the best kind of men and that it should get the very best service from them.

FOOT-AND-MOUTH DISEASE

Severe outbreaks of foot-and-mouth disease exist in continental Europe, in England and also in Ireland, where it has not previously appeared for a generation. This disease has been repeatedly eradicated from England at much effort and great expense, only to be subsequently reintroduced, not always through the importation of diseased animals, but often in feed for animals and other articles shipped, in the usual course of trade, from infected countries.

Veterinarians will recall that in neither of the two recent outbreaks of foot-and-mouth disease in this country, the only ones since its first eradication, was the disease introduced through the importation of diseased animals, but by infection carriers of another sort.

The danger of reintroduction of foot-and-mouth disease into this country is ever present and such introduction is perhaps more probable at this time, than at any previous time in recent years, because of a greater prevalence of this disease in Europe. The animal quarantine maintained by the B. A. I. and the examination, by the same authority, of biologic products imported for use on animals, are sufficient guarantee against an outbreak of this disease from either of these sources, but the introduction of infection on contaminated articles of ordinary commerce is quite possible, and every veterinarian should be on the alert to recognize it, should the disease appear, at the earliest possible moment, that means may be taken to check its spread and effect its eradication.

The symptoms of food-and-mouth disease are given by the Board of Agriculture of Great Britain as follows:

"In the early stages of the disease the animal frequently smacks its lips, and shows by the movement of its tongue that the mouth is the seat of suffering; and the saliva flows freely from the mouth. An examination of the mouth shows the existence of vesicles on the tongue and on the inner part of the upper lip and on the pad. These vesicles show themselves in the form of a tough white skin, which can be easily stripped off, and a red, raw surface is found beneath."

The animal seldom refuses food, but rolls it about in its mouth, and often drops it instead of swallowing it. In most instances the feet are affected as well as the mouth, and blisters will form between the toes and on the heels between hair and hoof, causing the animal to walk tenderly, and frequently to catch up one foot after the other and shake it as if to dislodge something which was producing pain.

"In milk cows the teats may be affected with vesicles, especially at the opening of the milk duct. This often leads to sores and crust being formed, which prevent the ready flow of the milk.

"The disease frequently exists simultaneously among cattle, sheep, and pigs of the farm."

FORAGE (MOLD) POISONING IN KANSAS

During the past eight weeks many thousands of horses have died in various parts of Kansas, from that form of cerebritis caused by eating certain molds, which are occasionally to be found on the provender of animals. It is estimated that more than 20,000 horses have died of this disease in Kansas alone. The loss of animals and the loss of crops due to the lack of horses to harvest them is estimated at $6,000,000 for Kansas and a less amount for Nebraska, where the disease has also been prevalent to a limited extent.

The Kansas State Live Stock Commissioner, J. H. Mercer acted with commendable foresight and promptness in this emergency and at the first report of the outbreak called in consultation Dr. Geo. F. Babb, milk inspector of Topeka, Dr. A. T. Kinsley, pathologist of Kansas City Veterinary College, Dr. K. W. Stowder, Veterinarian for the Live Stock Commis-

sion, Drs. B. A. Robinson, O. O. Wolfe and A. A. Shetler, members of the State Board of Veterinary Examiners, and a number of prominent practitioners from over the state. After an investigation of the outbreak and a later consultation in Topeka these veterinarians agreed that the epizootic was a cerebritis due to mold or forage poisoning and pointed out that no animals had been attacked, that had not been on pasture, and eaten grass, that owing to the peculiar climatic conditions that prevailed during the past season in Kansas and surrounding states contained a quantity of mold near the crown of the plants.

This committee agreed that treatment of the ailing animals was of little avail. It would appear that here was a simple proposition. The pastures over a wide area were dangerous to horses and to a less extent to mules, cattle were not affected. How permanent this poisonous quality of the grass was going to be was not known, therefore, a warning to the farmers and stockmen to keep their horses off of pasture and feed them only dry feed of good quality should have been widely heralded by all newspapers of the state.

By this means the veterinary profession of Kansas could have saved the farmers of the millions of loss and at the same time performed a service that would have rebounded to its own credit. But through a hesitancy in asserting themselves the veterinarians of Kansas failed to measure up to the requirements, if one may judge from the unanimous verdict of the press, and that comes pretty near being the verdict of the public. Instead of spreading this simple advice, so easily given and so effective, some indulged in all sorts of speculation as to cures and immunizing agents for the infected animals, and this matter was given to the papers and made ten times as much of as the more prosaic advice of how to prevent the disease.

Thousands of columns in the papers were devoted to the discussion of a "new disease" and to cerebrospinal meningitis due to a diplococcus which was found in the blood, and to the probability of its affecting man. No explanation was offered as to why in a cerebrospinal meningitis due to this organism it should be found in the blood and be entirely absent from the spinal fluid, as it was easily demonstrated to be, nor was the fact mentioned that this diplococcus, which is Gram-negative and virulent for rabbits, occurs in the blood of most sick and many well horses. An experimental laboratory was set up under state auspices and the manufacture of a curative serum (of course the discovery of a new disease without the accompanying production of a specific serum is not a possibility these days) was attempted and while all of this notoriety was being achieved by others, the wholly effective advice of the practitioners for preventing the disease was crowded out of the papers and received comparatively little attention from the horse owners.

Governor Stubbs of Kansas and Senator Curtis of the same state and Governor Aldrich of Nebraska made urgent calls upon the Department of Agriculture for Federal Inspectors to aid in the control of disease. Such aid was rendered by the B. A. I., but not in time to prevent Governor Stubbs from complaining to the President that his urgent appeals for help had been "received with inattention and accorded unpardonable neglect." The Governor offered $1000 for a cure for the "new epidemic." The State Board of Health wanted the people to burn all animals dying of the disease and to immediately notify it of any cases among the people. Colorado and Wyoming instituted a quarantine against Kansas horses and similar action on the part of Missouri and Oklahoma was prevented only by the strenuous opposition of the veterinary executive officers of those states. The railroads required reports on the disease from all station agents, banks sent out warnings to their customers and weekly papers contained little other than exaggerated accounts of the epizootic.

The subject of mold or forage poisoning is one that needs a great deal more investigation by veterinarians. It always exists to a limited extent in Kansas and Missouri and has in two previous years been very preva-

lent in the former state, when it was commonly referred to as corn stock disease in the first instance and blind staggers in the second. A mold on partially worm-eaten corn is credited with causing it. Investigation looking to the production of a preventive or curative biologic product are in order, and have been for many years. In their growth certain molds form saccharine and other substances which constitute excellent culture media for various bacteria, and the trouble may be due to some of these latter and not directly to toxins in the mold.

In Oklahoma, Arkansas and perhaps other southern states, this disease known as stomach staggers is permanently enzootic, and annually causes a great loss of live stock. Iowa, and the southern part of Illinois suffer to a less extent from pretty much the same condition, too, in the former state largely due to feeding improperly cured ensilage and in the latter in many instances to eating old straw, but in the district known as "Egypt"—the flood-plain of the Mississippi river, forage poisoning is wide-spread each year, about July first, from the same cause that operated in Kansas this year, i. e., a mold growing on the grass and ingested while grazing. In this region the cases are many, the mortality high, and the loss great.

Whenever found over this wide territory the ensemble of symptoms is quite characteristic and about as uniform as for other ailments. The mortality is almost always high and most lines of treatment to a large extent ineffective.

In a letter to Prof. J. J. Ferguson, secretary of the United States Live Stock Sanitary Association, Dr. A. Bostrom, state veterinarian of Nebraska, gives the symptoms and postmortem lesions most common in the Kansas-Nebraska outbreak, as follows:

"The disease is very fatal, not more than five percent recover, and these recoveries, in my opinion, cannot be claimed to be due to any treatment. It attacks horses of all ages, but mostly young horses between two and six years old. Most of the horses die within forty-eight hours, a few linger for a week or more, but some die as early as twelve hours after the first symptoms of the disease appear.

"Derangement of the central nervous system is shown in the earliest stages, there is somnolence, stupidity, muscular tremors of the face and neck, grinding of the teeth, paralysis of the muscles of deglutition, and generally of one side of the head and neck, later muscular incoordination of the limbs, falling down, and generally remaining flat on the side without showing any evidence of pain.

"Some exhibit rabiform symptoms. The visible mucus membranes are congested, petechia is especially marked on the membrana nictitans. The temperature in the early stage is generally between 103° F. and 106° F., respiration and pulse nearly normal. Later the temperature goes down, respirations are increased and abnormal, pulse increasing in rapidity, and at last imperceptible.

"Postmortem lesions show evidence of inflammation of the brain, spinal cord and also of the meninges, hemorrhagic infarcts in the lungs, and petechial hemorrhage in the spleen, yellowish infiltration of the connective and fat tissues of the body."

These symptoms differ somewhat from those of the typical cases of forage poisoning, if we may accept that type of forage poisoning in horses due to worm-eaten, moldy corn, as typical.

In these cases the first observable symptom is an inability of the animal to appreciate distance and a certain violence in its movements. Should the animal be called into the barn for its feed at this time it will likely strike the door sill violently with one forefoot in entering, seemingly not realizing how high the sill is, in approaching the feed box it will run against it with considerably force, and in eating exhibit a certain voraciousness that is not normal. At this stage the disease is quite amenable to treatment.

Three to twelve hours later, depending upon the acuteness of the attack, in leading the animal through a doorway, it will almost always run against one or the other of the door jambs, in going past a tree it is quite apt to run against it, and the gait is

somewhat stilty. With prompt and vigorous treatment at this stage, fifty percent or more of the cases recover.

The progress of the disease from this time on is rapid, incoordination or paralysis of all locomotary organs is soon apparent, and if left at liberty the animal constantly travels in a circle (always to the left or always to the right as the case may be, but never alternating) in a staggering, shambling, uncertain gait. Soon the sense of sight is completely lost and the animal, if not confined, will destroy itself by running into something or exhaust itself by its continued violent movements. If confined at this time the roof of the barn is in rather more danger than other parts, since the animal will try to climb *over* all objects in its way, and if surmounting them is impossible, will stand and push its head violently into a corner, as high as it can reach. At this time the animal is dangerous to attendants, will bite or strike viciously at anything that touches it.

There is little elevation of the temperature and such as is present is doubtless due to violent exercise and the increased respiration. The pulse is rapid and weak, respiration rapid, stertorous and very labored. Death occurs in ninety percent of the untreated cases in from twelve to seventy-two hours after the first symptoms of the attack are shown.

With the exception of intense inflammation of the meninges of the brain, no lesions of the disease are observable on autopsy in the cases that die within thirty-six hours or less after first attacked. In the more prolonged attacks, there is observable a progressive increase in the amount of fluid in the ventricles of the brain. In the cases lasting more than three days, serum to the amount of several ounces may escape from the brain on opening, portions of the brain itself soften, and as in the peracute cases inflammation of the brain-coverings is intense.

There is no inflammation of the spinal cord or its coverings in typical cases. The medulla and its coverings are involved to about the same extent as is the brain.

In the recent severe outbreak of forage poisoning in Kansas, diagnosis was rendered more difficult by the prevalence of the palisade worm and other strongyles which are unusually plentiful in that region at this time, and many deaths now attributed to forage poisoning were no doubt due to the strongylus armatus.

A deplorable result of this epizootic, aside from the loss of animals, was the crop of medicine fakers it produced. They appeared in every neighborhood with "cures" to suit every taste and reaped abundant dollars for their fakes, most of which they claimed were serums.

Since the foregoing was written numerous cases of this disease have been reported in animals that had been fed none but the best of forage, and considerable evidence, that the disease is a specific one, has been furnished by certain laboratory workers. A full account of their discoveries will be given in the December issue.

AN ASSOCIATION OF VETERINARY HEALTH OFFICERS MUCH NEEDED

Much interest has been aroused by the editorial in the September issue of VETERINARY MEDICINE, discussing the subject of municipal health work for veterinarians, and the advisability of those already in this work organizing a national association for the promotion of their interests. The list of names which was sent us in response to the request in this editorial is not as large as it should be, but it is growing all the time and with a little more help from those now in the work it can be extended very much.

Below is given a list of these names. Doubtless, there are errors in the list, but it represents the best information on the subject which we have at this time, and we ask all who recognize errors in it to write us giving the correct information. If any reader knows of any addition that should be made to the list, please send us the names.

Municipal health work offers a great field for veterinarians; there are ten thousand cities in the country that should employ a veterinarian for this work. Most of them could profitably use the full time of one or more men. This would create positions for a number of veteri-

narians, almost equal to the total number of men now in the profession, and would be very advantageous to those in the work at this time, and to those entering the profession for years to come.

We give here just a few excerpts from letters on this subject and ask the pardon of the writers for thus making public certain portions of private letters.

I think your idea of forming a national association of veterinarians who are in municipal work is a great thing. There is a great field in municipal work. There is considerable more than milk and meat inspection that a veterinarian can do, and is qualified to do, and he will only let the people know it.

I came here four years ago as meat and milk inspector and after being here a while I saw the condition that the Health Department was in and called attention to it; our Board was composed of a bunch of live wires and they realized the truth of what I told them, and they turned over to me the job of reorganizing the Department and put me at the head of if.

It took me about a year to work it out but I did it and today we have one of the most up-to-date Health Departments in the country and I have the cooperation of every physician in the city. I have an up-to-date laboratory and I do all of the laboratory work of the Department. Last summer I went to Columbia University and took a special course in pathology and bacteriology and am prepared to make any kind of a test and do any kind of blood work that is required by the duties of the Department.

Our Department is run on a scientific basis and is accomplishing a vast amount of good for the city.

What I have done here can be done by any qualified veterinarian anywhere. I find that a great many veterinarians concede too much to our brother M. D.'s and are willing to stand back while the M. D. goes ahead. I maintain that it requires just as much gray matter to make a veterinarian as it does to make an M. D. if not a little bit more, and I think that the average qualified veterinarian has just as much knowledge of pathology and bacteriology as the average M. D., if not a little more, and why should he not take the credit for it? And when it comes to sanitation and hygiene the veterinarian need not stand back for any one.

I want to add a good word for VETERINARY MEDICINE. I like the new size much better, but personally, I wish that you had waited to change the size to the beginning of a new volume as I want to have mine bound.

CLARENCE E. SMITH, D. V. S.
Supt. of Health.
Greenville, S. C.

I think that the scheme you suggest for forming an Association of Veterinary Officers of Health is a fine one, and your kind offer of the pages of VETERINARY MEDICINE for bringing it about is most generous.

G. W. STANBRIDGE, D. V. S.
Inspector of Meats and Provisions and Animals.
Winchendon, Mass.

I read your article on the proposition of forming or organizing an Association of Veterinary Officers of Health, and want to express my entire approval of such a plan. It is just what we need as there are no other organizations or associations that meet the requirements. Count me in on the movement. In anything I can do, command me.

W. M. HOWELL, D. V. M.
Meat and Milk Inspector.
Valdosta, Ga.

I think your idea in regard to an organization of veterinarians, engaged in public health work, something that would be of much benefit to every interested person.

JAY W. REEDER, M. D. C.
Dairy, Milk and Meat Inspector.
Sandusky, O.

The organization of an Association of Veterinary Health Officers would no doubt be of great benefit toward the establishment of better laws governing the wholesomeness of food products in all the smaller cities of the country.

Trusting you may receive much encouragement toward the upbuilding of such an association and assuring you of my support, I beg to remain,

A. M. EICHELBERGER, D. V. M.
Meat Inspector.
Shreveport, La.

State and Deputy State Veterinarians in this list, it is understood, have a certain amount of municipal sanitary work to do in connection with their state work.

VETERINARIANS ENGAGED in MUNICIPAL HEALTH WORK

Name	*Official Position*	*City*
ALABAMA		
Connor, J. F.	Meat and Milk Ins.	Selma.
Duncan, E. M.	Chief Milk and Meat Inspector	Birmingham
Harsh, F. R.	Chief Milk and Meat Inspector	Mobile
Hill, A.	Meat Inspector	Montgomery
Lewallen, G. W.	Milk Inspector	Montgomery
Luke, J. M.	Meat and Milk Ins.	Greenville
Strickland,	" " " "	Birmingham
Threadgill, J. E.	" " " "	Troy
Whitfield, F. B.	" " " "	Birmingham
Woolf, F. P.	Meat Inspector	Mobile
ARKANSAS		
Smiley, H. W.	Chief Milk and Dairy Inspector	Little Rock
Smith, C. D.	Meat, Milk and Cattle Inspector	Pine Bluff
CALIFORNIA		
Archibald, R. A.	Market and Food Ins.	Oakland
Hurt, L. M.	City Milk Inspector	Pasadena
Keane,	State Veterinarian	Sacramento
Mathers, Louis H.	Milk and Meat Ins.	Vallejo
Tucker, Glenn A.	Milk Inspector	San Diego
COLORADO		
Barnes, C. L.	Food Inspector	Fort Collins
Glover, Geo. H.	Food Inspector	Fort Collins
Grubb, E. A.	Asst. Milk Inspector	Denver
Guyselman, P.	Milk Inspector	Denver
Warner, M. J.	Chief Meat Inspector	Denver
CONNECTICUT		
Keeley, Peter T.	Milk and Food Ins.	Waterbury
GEORGIA		
Bahnsen, Peter F.	State Veterinarian	Americus
Howell, W. M.	Milk and Meat Ins.	Valdosta
IDAHO		
R. B. Hurd.	Assistant State Vet.	Payette
Weber, J. H.	State Veterinarian	Boise
INDIANA		
Buckmaster, A.	Asst. State Vet.	Montpelier
Coote, H. L. B.	Health Officer	Michigan City
Heiman, Leo M.	Sanitary Inspector	Evansville
Muecke, Frank J.	Milk and Meat Ins.	Indianapolis
Redmon, Joseph T.	Sanitary Inspector	Kingman
Stout, Charles F.	Milk and Meat Ins.	Indianapolis

KANSAS

Babb, Geo. F. — Milk Inspector — Topeka
Eagle, James N. — " and Food Ins. — Kansas City
Richards, G. L. — " Inspector — Parsons
Stowe, E. R. — " Inspector — Coffeeville

KENTUCKY

Beuter, B. H. — City Live Stock Ins. — Louisville
Chawk, J. T. — City Veterinarian — Louisville
Crissler, — Milk Inspector — Covington
Eisenman, F. T. — Vet. for Jefferson Co. — Louisville
Gary, W. E. — Dairy Inspector — Louisville
Graham, Robt. — State Veterinarian — Lexington
Shannon, Jas. T. — Vet. for Fayette Co. — Lexington
Simmons, W. H. — Official Tuberculin Tester — Louisville
Warner, C. G. — Milk Inspector — Paducah

LOUISIANA

Eichelberger, A. M. — Meat Inspector — Shreveport

MARYLAND

Hickman, Lawrence — State Veterinarian — Baltimore

MASSACHUSETTS

Bumpus, O. F. — Health Officer — Whitman
Lukes, Harry — Munic. Ins. Meat and Provisions — Springfield
Stanbridge, G. W. — Munic. Ins. Meat and Provisions — Winchendon

MICHIGAN

Hatch, L. H. — Meat Inspector — Saginaw

MISSISSIPPI

Chadwick, H. — City Veterinarian — Jackson
Rank, E. M. — State Veterinarian — Starkville

MISSOURI

Barbee, John S. — Food and Milk Ins. — Kansas City
Sheldon, Samuel — State Veterinarian — Columbia
Tangeman, Geo. H. — Creamery Supplies — Kansas City

MONTANA

Boyd, J. C. — Tuberculin Tester — Helena
Cheney, A. H. — Special Dep. Vet. — Miles City
Devore, O. L. — Resident " " — Bozeman
Dufrene, A. J. — Special " " — Glendive
Griesemer, S. F. — Special " " — Helena
Hull, F. T. — Resident " " — Conrad
Knowles, A. D. — Resident " " — Livingstone
Knowles, M. E. — State Veterinarian — Helena
Leslie, C. F. — Resident Dep. Vet. — Kalispell
Nash, E. D. — Chief " " — Helena
Nutting, L. A. — Resident " " — Great Falls
Orr, W. C. — Special " " — Dillon
Rein, E. A. — Resident " " — Lewistown
Sharpe, L. P. — Resident " " — Moore
Stevens, C. H. — Tuberculin Tester — Missoula
Stevenson, G. H. — Resident Dep. Vet. — Butte
Taylor, W. J. — " " " — Bozeman
Thomas, G. E. — " " " — Billings
Ward, J. R. — " " " — Missoula
Welch, Howard — " " " — Bozeman

NEW JERSEY

Harker, Geo. F. — Meat Inspector — Trenton
Loubach, A. P. — Food " — Perth Amboy
Stearns, H. E. — Milk " — Kearney

NEW YORK

Loomis, Frank J. — City Veterinarian — Watertown
Whipple, A. N. — Meat Inspector — Adams

NORTH CAROLINA

Carroll, T. B. — Milk Inspector — Wilmington
Herring, L. J. — Meat and Milk Ins. — Wilson
Jones, A. C. — " " " " — High Point
Lull, E. E. — " " " " — Greensboro
McCormick, L. M. — Milk Inspector — Asheville
Park, J. F. — Meat and Milk Ins. — Winston Salem
Ragland, M. J. — Milk Inspector — Salisbury

NORTH DAKOTA

Crewe, W. F. — State Veterinarian —
Davidson, E. J. — Milk and Meat Ins. — Grand Forks
James, I. L. — " and Meat Ins. — Fargo
Lang, E. A. — " Inspector — Jamestown
McNaughton, D. D. — " " — Devils Lake
Martin, C. H. — " " — Valley City
Shigley, R. E. — Asst. State Vet. — Kenmare
Taylor, B. C. — Milk Inspector — Hillsboro
Walsh, E. J. — Meat and Milk Ins. — Minot

OHIO

Bowman, A. T. — Food and Dairy Ins. — Canton
Reeder, Jay W. — Dairy, Milk and Meat Inspector — Sandusky
Zimmer, Fred — Asst. State Vet. — Williamsburg

PENNSYLVANIA

Booth, E. T. — — Philadelphia
Bruner, S. E. — Meat Inspector — Greenville
Cahill, E. A. — Supervising Meat Ins. — Canonsburg
Campbell, H. C. — Laboratory Meat and Milk Inspector — Philadelphia
Cawley, A. O. — Meat Inspector — Lewisburg
Church, H. R. — Meat Inspector — Wilkes-Barre
Coburn, S. L. — Certified Milk Ins. — Philadelphia
Collmar, W. C. — — Doylestown
Devlin, R. A. — Asst. Meat and Cattle Inspector — Philadelphia
Dick, G. A. — Supervising Meat Ins. — Kane
Felton, H. B. — Asst. Milk Ins. — Philadelphia
Fetherolf, George — Supervising Meat Ins. — Reading
Fuller, W. D. — Supervising Meat Ins. — Somerset
Garrett, Geo. M. — — West Chester
Gimper, W. S. — Chief Dept. of Milk Hygiene, State Live Stock Sanitary Board — Harrisburg
Goldhaft, A. D. — Asst. Meat and Cattle Inspector — Philadelphia
Graybill, G. M. — Meat Inspector — East Pittsburg
Haines, W. A. — Supervising Meat Ins. — Bristol
Helmer, Jacob — Supervising Meat Ins. — Scranton
Hendrick, M. P. — Meat Inspector — Meadville
Hickman, D. E. — Meat Inspector — West Chester
Jobson, Geo. B. — Meat (raw) Inspector — Franklin
Jones, P. K. — Meat and Milk Ins. — Pittsburg
Klein Louis A. — Laboratory Meat and Milk Inspector — Philadelphia
Lienhardt R. P. — Supervising Meat Ins. — Wayne
McLean, C. C. — Supervising Meat Ins. — Meadville,
McNeal, H. T. — Supervising Meat and Milk Inspector — Sunbury
McNeil, Jas. C — Supervising Meat Ins. — Pittsburgh
Marshall, C. J. — State Veterinarian — Harrisburg
Martien, H. D. — Asst. Meat and Cattle Inspector — Philadelphia
Mather, J. W. — Supervising Meat Ins. — Berwick
Muir, E. S. — Chief Meat Ins., Bureau of Health — Philadelphia
Munce, Thos. E. — Chief Meat Ins. State Live Stock Sanitary Board — Washington
Noack, Otto G. — Meat Inspector — Reading
Ridge, W. H. — Supervising Meat and Milk Inspector — Trevose
Rosenberger, J. N. — — Wycombe
Sallade, J. W. — Supervising Meat and Milk Inspector — Auburn
Stehle, Fred — Supervising Meat and Milk Inspector — Philadelphia
Tomlinson, W. J. — Supervising Meat Ins. — Williamsport
Turner, H. P. — Supervising Meat and Milk Inspector — New Hope
Welliver, G. H. — Supervising Meat Ins. — Bloomsburg
Winstanley, J. H. — Supervising Meat and Milk Inspector — Germantown
Woodward, F. J. — Supervising Meat Ins. — Media

RHODE ISLAND

Richards, U. S. — Milk Inspector — Woonsocket

SOUTH CAROLINA

McInness, B. Kater — Veterinary Inspector — Charleston
Rudolph, James A. — Milk and Meat Ins. — Anderson
Smith, Clarence E. — Supt. of Health — Greenville

SOUTH DAKOTA

Brewster, L. P. — Deputy State Vet. — Vermillion

TENNESSEE

White, George R. — State Live Stock Ins. — Nashville

TEXAS

Foster, Allen A. — Food Inspector — Marshall
Hodges, Robley H. — Food Inspector — Waco

UTAH

Treman, W. J. — City Veterinarian — Salt Lake City

WASHINGTON

Atchison, J. G. — Asst. Meat Ins. — Seattle
Calkins, Fred — Milk Inspector — Tacoma
Habecker — Meat Inspector — North Yakima
Nelson, S. B. — State Veterinarian — Spokane
Pelton, Cleveland — Asst. Meat Ins. — Seattle
Smith, F. E. — Meat Inspector — Seattle

WEST VIRGINIA

Callander, J. C. — City Veterinarian — Parkersburg
Layne, Ernest L. — Meat and Milk Ins. — Huntington

WISCONSIN

Taylor, James C. — Milk and Meat Ins. — Milwaukee

OUR NEW SERIAL

In this issue we begin **"Nan,"** a serial that will run for many issues. This is not a veterinary story, nor in a strict sense a medical story, yet it is written by a doctor and much of it is pointedly about doctors. If required to classify the story we should probably call it a sociological one. It deals with a subject that is

receiving a great deal of attention at this time by the medical and the lay press and by public-spirited citizens everywhere.

"Nan" points out various much-needed reforms, and to a certain extent shows how these may be accomplished, yet the writer is never dogmatic, as most reformers are, nor are his views chimerical, nor his remedies impracticable, a fault of many well-intentioned reformers.

"Nan" is a story of Chicago life, beginning in the underworld but soon emerging to better things. Its description of the intrigue of politicians with this class and of the ramification of state and city politics, throughout the underworld of Chicago, will prove a revelation to most good citizens. But we must not anticipate by telling the story in advance. You will enjoy it, every installment. Read it.

UNEXPECTED FATALITIES IN PRACTICE

(*Continued from page 434*)

both of her hind legs. There was also numerous small abrasions and lacerations on nearly all parts of her body. The animal was at once brought to my hospital for treatment. All wounds and abrasions were dressed antiseptically. Extra pre-

That easy "Standing Operation," Springtime Surgery, No. 1.—Reproduced from *College Days*, Chicago Veterinary College.

caution being taken with the wounds on the legs. These were carefully fomented with warm antiseptic solution, then sprayed with Lugol's solution of iodine, wrapped in aseptic absorbent cotton, and bandages applied.

The second day the dressings were removed, the wounds dressed as before and fresh dressings of cotton and bandages applied. This treatment was carried out daily. On the third day after the legs had been dressed, the mare was given one ampule of polyvalent bacterins. Up to this time the mare appeared to be doing well. Owing to the size of the leg wounds, no thought was given to the possible infection of tetanus, especially after the extraordinary antiseptic precautions that had been taken with the wounds. On the morning of the third day after the administration of the bacterin, the mare presented a typical case of tetanus, of the most virulent type, and was dead, sixty hours afterward from the disease.

From whence came the tetanus infection? From the wounds or from the polyvalent bacterins? This was another unexpected case of fatality. The hygienic surroundings of this animal were of the best. She was in a new, clean box stall with a clean cement floor, I personally dressed her wounds, and there had not been a previous case of tetanus on my premises in over ten years. I may be criticized for not at once administering a dose of antitetanic serum to this mare on her first admission to the hospital, and perhaps justly so, because I am a firm believer in the efficacy of this serum as a preventative of tetanus, and use it largely for that purpose, but I am inclined to be of the opinion that this mare did not contract tetanus from her wounds.

[The contamination of a stock bacterin with tetanus spores is not probable, considering the care that is taken with these bacterins by reliable manufacturers.

The possibility of introducing tetanus spores with an injection of autogenous bacterin is ever present unless such bacterins are made by high-class laboratory men. The "rough and ready" method which many practitioners employ in making and sterilizing autogenous bacterins offers no security against contamination of the bacterin with tetanus spores.

In this case, however, most of our readers will agree that neither the bacterin injection nor the wound was responsible for the tetanus which ensued, since in the case

(*Continued on page 484*)

WORLDS WORK in Veterinary Science

A digest of all the Current Literature of Comparative Medicine

By Dr L. W Fetzer Washington, D.C.

Abortive treatment of foot-and-mouth disease, by J. and A. Leneveu and G. Gosselin. (Rec. Med. Vet., 1911, Vol. 88, No. 24, pp. 597–610, Figs. 8.)—The treatment consists of giving a saturated solution of iodoform in ether into both of the nares (cows 5 Cc. morning, afternoon and evening, calves in proportion to age) of the quarantined animals.

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Beriberi in ducks, by L. Kulz. (Arch. f. Schiffs—u. Tropen—hyg., 1912, Vol. 16, No. 6, pp. 193–195.)—Beriberi was noted amongst the ducks at Kribi in the Camerun which were fed upon cooked peeled rice. That this was the cause of the polyneuritis was proven by some experiments in which peeled, cooked and uncooked unpeeled rice was fed to ducks.

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Combating streptococcic mastitis, by Dr. Weber. (Berlin. Tierarztl. Wochenschr., 1912, Vol. 28, No. 12, pp. 205–208.)—In order to prevent the spread of this condition the following procedure is recommended: 200 Cc. of A. O. 75 percent solution of silver nitrate is injected into the affected quarter and the udder thoroughly massaged so that the solution will be distributed to all the milk canals, etc. After one-half hour the solution, etc., is removed (milked) from the gland. If within fifteen days the pathologic process is still present the treatment with silver nitrate solution is repeated. If the quarter has become useless (nonlactating) it is also advisable to repeat the injection to keep it from acting as a source of infection.

—

Immunizing against swine plague and hog cholera. H. Prinz. (Zeitschr. f. Infektionskrankh. d. Haustiere, 1912, Vol. II, No. 2, pp. 125–152.)—Swine plague must be combated by hygienic measures rather than by the biological methods (immunotherapy) which we have at our disposal today.

The pre-treatment of hogs with the serum from animals affected with hog cholera, is harmless for both hogs affected with the disease and sound animals. This is a valuable method for protecting pigs against a natural infection, and when animals already infected are in the first stages of the disease. The use of 2000 Cc. of defibrinated blood from a number of animals (composite serum) is the best procedure.

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Composition of the sweat of horses resulting as a consequence of heat and work by A. Pugliese. (Institute of Experimental Physiology, Veterinary High School, Milan, Italy.)—(Biochem. Zeitschr., 1912, Vol. 39, pp. 133.)—Younger animals were found to perspire much more quickly under the influence of heat than older horses. The sweat glands of older animals only functionate after much muscular work is done.

The total solid substances in the sweat, especially the nitrogenous compounds, increase with the age of the animal.

The sweat resulting from muscular activity (work) was found to contain a larger percentage of total solids, and the specific gravity, viscosity, chlorine, ash content and nitrogen content, and osmotic pressure were greater. Of the nitrogenous substances, those precipitated only by alcohol increase during work while the nonprecipitable ones decrease.

Horse sweat and human sweat, obtained by exposure to heat, when compared shows a greater percentage of total solids and ash in the former and a decided increase in osmotic pressure.

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SAPROPLYTIC infections in the horse which are known under the names typhoses and pasturelloses. By Prevost (Jour. de Med. Veterin. (1912), Vol. 63, pp. 1–7).—During the winters 1910–1911 amongst the horses of regiments stationed in the East an epidemic disease was noted which was characterized by the sudden onset of a high fever [40° C. (104° F.)—41° C. (105.8° F.)] of granular debris in the blood cells, an increased coagulation time of the blood, edema, principally in the eyelids, and hind extremities. All of the above appear quickly and disappear just as rapidly. Some nervous symptoms, as vertigo, paralysis were also noted in a few cases.

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SHEEP POX in Tunis and the attenuation of the virus by heat, by E. Ducloux (C. R. Soc. de Biol., 1912, Vol. 72, pp. 279–281).—By heating the virus for three hours in a water bath an attenuated vaccine can be obtained which on subcutaneous introduction will only produce the disease at the site of injection. The author believes that with this method sheep can be immunized successfully.

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THE value of recently introduced methods for the exa ination of milk, by E. Philippe. (Mitt. Lebensmittelunters. u. Hyg., 1911, Vol. 2, No. 1, pp. 1–36.)—The writer considers that a leukocyte count is a valuable means of diagnosing udder disease, and that a high catalase number is a certain indication of disease. He believes that no lower limit can be placed on this number which he determines at 25° C. (77° F.), and reports in Cc. the oxygen liberated by 100 Cc. of milk. Of 200 samples of milk tested, 114 had a catalase number of less than twenty, fifty-one lay between twenty and thirty, of seventeen between thirty and forty, while sixteen were found to have a catalase number exceeding forty.

The fermentation-reductase test or M-reductase test, using methylene-blue solution free from formaldehyde, is said to be a certain means of determining whether milk is fresh or not; the reduction of the color to its leukobase is due to bacterial action. A milk which is not decolorized within three hours may be passed as normal. The F-M-reductase test in which methylene-blue solution containing formaldehyde is used, is of doubtful value, but it is said that a normal milk should decolorize the reagent within ten minutes. Much importance is attached to the determination of the sediment in the milk samples. This can best be done by the weighing method. No special skill or complicated apparatus is required for conducting the above tests.

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DIAGNOSIS of pregnancy by the optical method and by dialysis. By Emil Abderhalden and Miki Kiutsi. (Univ. Halle. z. Physiol. Chem., 1912, Vol. 77, pp. 249–58.)—Pregnancy introduces into the circulation substances which can be considered foreign and which give rise to the formation of protective enzymes; comparable to the formation of invertase in blood after injection of cane sugar, or the formation of peptolytic enzymes capable of hydrolyzing certain foreign proteins or peptones which had been previously injected into the circulation. A peptone was prepared from the placentas with which it was found that only serum from pregnant women invariably gave a positive test with the optical method. This consists in noting the change of rotation with a delicate polariscope caused by the serum-peptone mixture after a time, not over forty-eight hours. Where pregnancy does not exist the serum causes no change in rotation. These observations were also made on various animals. Serum of fetal blood caused no change in rotation of the plane of polarized light. These results were confirmed by subjecting serum and boiled placentas to dialysis. (The placentas were previously boiled to remove traces of biuret.) Only in those instances in which serum from pregnant cases was used, was the biuret positive in the dialysate. These methods were applied in practice to agree with the clinical findings.

POINTED OPINIONS ON LIVE TOPICS by Readers of Veterinary Medicine

It is in reports like those of this department that the current history of the progress of veterinary science is written. Are you leaving a record of your experience which will help others, as you have been aided by these and other clinical reports? If not, you are earnestly invited to contribute from your experience that this department may be of the greatest service to its readers. By so doing you will earn the thanks of the editor, the approval of the veterinary profession and the lasting gratitude of those who are aided by your suggestions.

An Equine Epizootic in Kansas

About August 10, 1912, the Kansas State Live Stock Sanitary Commissioner began to receive urgent calls for help in a peculiar, unknown, apparently contagious disease that was attacking horses in the western part of the state and causing great losses. Investigation by the writer and others at once confirmed the reported high mortality of the scourge.

Several expert's opinions were given as to the name of the disease, chief among which were "forage poisoning," "cerebro-spinal meningitis" and "strongylosis," all being agreed, however, that the cause should be looked for in the pastures.

The State Live Stock Sanitary Commissioner at once sent all available veterinarians from the eastern part of the state, to the infected areas, which were almost wholly without graduate practitioners, and efforts were made to stop the increase of the trouble by advice respecting the handling of the well animals, which was given widespread publicity in the local and state papers. Wherever this advice was carefully followed, immediate lessening of the number of new cases was evident.

So great were the losses and so widespread had the disease become that Federal veterinary inspectors were sent out to investigate the disease and its cause. The resultant findings of these men have been in accordance with that of the practitioners, that the disease is a forage poisoning and that prompt removal of well animals from pasturage, with thorough cleaning out of the intestinal tract, followed by careful feeding of only *clean* feed and *clean* water will prevent further trouble.

Treatment of sick animals has been signally ineffectual. A few horses have recovered, some without treatment, some with treatment, and some in spite of treatment. All kinds of treatment have been advocated and used, both scientific and empiric, but they have all failed.

But few mules have been affected, probably due to the fact that mules are more particular in their food and drink than horses, and because comparatively few mules are to be found in the affected areas.

No animals that have been kept up and fed on good feed and water have been affected, thus showing the cause to exist in the pastures.

The past season has been ideal for the development of mold growth about the bases of the grass tufts and for the existence of stagnant pools of water in the pastures.

The disease has been widespread over an area of 10,000 square miles in western Kansas and has appeared here and there in other parts of the state and contiguous parts of neighboring states. Altogether probably 10,000 animals have succumbed and not only has the monetary loss been great, but the loss of many work horses has prevented fall plowing, already two months late.

I might write pages of my experience with the farmers while out on this work

It suffices to say that, in consequence of those experiences, the standard intelligence of the average farmer has received a decided set-back in my opinion. His utter disregard and even contempt for professional advice and suggestion, and his implicit faith in the most absurd and foolish ideas as to the cause and treatment of the disease have engendered a feeling akin to disgust for the apparently "intelligent farmer." When it comes to animal diseases the "intelligent farmer" does not exist among the average.

GEO. F. BABB, M. S., D. V. S.
Topeka, Kan.

SURGICAL TREATMENT OF THE SO-CALLED CEREBROSPINAL MENINGITIS IN HORSES

During the last thirty days a disease in horses has spread over western Kansas. It is very similar to cerebrospinal meningitis. It is called Borna's disease, forage poisoning, infestation with Palisade Worms or Strongylus Armatus infestation, and many other names, by the different men who have come in contact with it. Medical treatment seems to be useless, except in the milder cases. I have saved a good many patients by ligation of the carotid arteries. This is rather severe treatment, but it has saved a good many horses for me that would otherwise have died. All the means of restraint usually required is a twitch. Some of them stand without even a halter on.

Technic.—Shave and disinfect an area about three inches long by one inch wide, midway along the neck and just below the jugular furrow. Make an incision, one and a half inches long, through the skin, and tear through the fascia with the finger till the upper side of the trachea is reached. The carotid artery is easily recognized by the pulsation. Bring it to the surface with the finger. Carefully separate the nerves. Pass a curved needle threaded with strong linen around the artery and ligate tightly. Suture the skin with the same material and repeat the operation on the opposite side.

The horse becomes more sleepy for the next twenty-four hours. At the end of that time, if he is still on his feet, he has a good chance to recover. If he gets down and cannot rise, destruction is advisable.

I have operated on all kinds of cases, and find that if they are reached in the early stages about one-half of them recover with this treatment. In the milder cases I use a serum, made from blood of horses that have recovered, and also nuclein.

Here is a record of a few cases treated by this method:

Case 1.—Bay horse, five years old, had been down for twelve hours and had beaten his head till his eyes were swollen shut. I operated on him at 8 a. m., and in thirty minutes he rolled up on his sternum and rested easy. He died two hours later without a struggle.

Case 2.—Black gelding, four years old, had been sick about thirty-six hours, but was still on his feet; unable to swallow. Very feverish. Cooled down after the operation, but died four days later, due to lack of care and inanition.

Case 3.—Bay mare, two years old, had been treated by me four days previous and apparently recovered. Was called back and found her leaning against the side of the box stall, nose and lips swollen, throat paralyzed. Animal could not be made to take a step. Operated on her in the stall, without even a halter on her. She lingered for about four days, then began to improve, and at this writing seems to be normal again. A large number of farmers present predicted that she could not live over night.

Case 4.—Suckling colt belonging to same man as No. 3. I operated on him in the beginning of the attack. He never stopped eating. Made a good recovery.

Case 5.—Bay mare about eight years old, with colt at side. Had been sick over night. Operated on her at 9 a. m. Owner was obliged to destroy her in about forty-eight hours.

Case 6.—Suckling colt of case No. 5. Was not noticed to be sick until we had operated on the mother, when he walked up and sucked and started to walk away again he fell and could not rise for some time. Staggered considerably. Was op-

erated on at once and made a good recovery.

Case 7.—Aged bay mare. I was called to see her in the morning, and gave oil and acetanilid. She soon went down. I operated on her and she died in 36 hours.

Case 8.—Belonged to owner of case No. 7. Was operated on at same time and made a good recovery.

Case 9.—Belonged to same man as cases Nos. 7 and 8. An old bay mare with a colt at her side. She improved from the hour of operation.

Case 10.—Black gelding, rather vicious. Was first noticed to be sick at noon. I gave oil and turpentine with a stomach tube. No improvement. Operated on him at midnight. Next morning all signs of staggering had vanished. He made an uneventful recovery.

Case 11.—Belonged to same man as case No. 10. Had been sick about twenty-four hours. Joints stiff, bad odor from mouth. Operated upon about 2 a. m. This horse was in same shed with No. 10, who had been operated on the previous night, and No. 12, who was operated on the same night as No. 11. No. 10, being very vicious, got No. 11 down and injured him by striking with his fore feet. He died in forty-eight hours.

Case 12.—Belonged to same man as Nos. 10 and 11, was operated on about 2 a. m. Unfavorable prognosis, as he could scarcely stay on his feet. Improved steadily, but died on the sixth day, due to weakness, as he had continued unable to swallow a bite.

I have been able to save about fifty percent of those operated on in the first stages of the disease by this treatment. It is not satisfactory, of course, but I will continue it until a better one is produced. I can show about twenty-five head that have recovered under this treatment, and many others would have recovered had they received the proper after-care.

Garfield, Kans. D. H. BIBENS, V. S.

SABADILLA FOR PEDICULIDÆ

R. La Pointe, D. V. S., asks for a formula for a good powder to kill lice.

I have used powdered sabadilla for the past three years, and the required results were always obtained. Apply it twice a week, rub in well. Usually two applications are sufficient.

V. F. W.

AN AUTOMOBILE INJURY OF A DOG

The following account of a case of fractured pelvis may prove interesting to readers of VETERINARY MEDICINE.

Subject.—Male fox terrier, aged three years.

History.—The dog was playing in the road and was run over by a large touring car, the wheels passing over the hind quarters, spreading the hind legs outward.

On admission to the hospital, the patient was suffering intense pain, quite unable to stand and bleeding from the mouth, anus and penis. In order to facilitate examination, he received three H-M-C No. 1. I found by rectal examination that the shaft of the ilium (right) was fractured and the symphysis pubis split open, about one and one-half inches. The bladder had become jammed between the bones, but was not ruptured.

Treatment.—The bladder was disengaged by gentle manipulation and the bones pushed together by compression from without and the parts adjusted to as near the normal position as was possible. The hind legs were then hobbled above the hocks to prevent abduction and a glue bandage applied, around each leg and up over the croup.

After about six layers of bandage were on an iron splint fitted over the croup and extending to the stifle on each side was placed in position and the bandaging continued for another six layers. The parts were held in position until the glue hardened, when the hind quarters were found to be nicely immobilized.

The patient was kept under the influence of H-M-C for one week, only milk, administered during the conscious periods, between injections of the H-M-C, being allowed for that period. Hemorrhage from the penis continued for four days, when the urine became normal and all feverish

symptoms abated (the highest temperature recorded was 104° F.). On the seventh day the patient received three grains of calomel and an enema and was placed on a light meat diet.

It was surprising how he managed to get around his kennel on his front legs. The cast was removed on the thirtieth day and limited exercise allowed. He was discharged at the end of the sixth week in good condition, with only a slight limp.

C. G. SAUNDERS, V. S., B. V. Sc.

Toronto, Can.

THE VALUE OF ANESTHESIA IN VETERINARY PRACTICE

After reading the article "Medicine, Its Uses and Abuses," by T. N. Spencer, D. V. S., Concord, N. C., in the September issue of VETERINARY MEDICINE, I desire to comment on that portion of it pertaining to equine anesthetics.

The statement by Doctor Spencer that equine anesthetics as a branch of veterinary medicine is greatly neglected, and that it has the weakest place in the practice of veterinary medicine, I believe to be true. But, to his statement immediately following, that the anesthetics now in use are not all practical for the country practitioner to use, because generally he has no skilled help, I take objections because I think it misleading, especially as to the use of chloroform.

I am writing this with the hope that it may induce some veterinarians, who are starting out in practice, to take up the regular use of chloroform as an anesthetic, who otherwise might be discouraged in its use after reading Doctor Spencer's article.

After an experience of many years in the use of chloroform as an anesthetic in equines, as well as in other species of animals, I have no hesitancy in recommending it as a safe and satisfactory agent, and saying that it may be administered with safety and satisfaction by the country practitioner, even if he has no skilled help during the time of operating. There are, however, two or three essential details in connection with its administration, which should not be overlooked.

First, in its use in the horse the air should be nearly excluded so that a proper stage of anesthesia may be reached in a very short time. Then, especially if the operation is to take some time the animal, after it has become thoroughly anesthetized, should be permitted to inhale air through the sponge, with the chloroform, for the double purpose of maintaining anesthesia and as security against injurious results, which the fresh air affords. This may be done by using an inhaler provided with an oblong, sole leather bottom on the nose piece of the inhaler, manipulated so as to close or uncover two holes at will.

I have an inhaler of my own design, made entirely of leather and felt, which is almost indestructible as far as use is concerned. It was made over twenty years ago and is still serviceable, and it has always given the best of satisfaction.

For dogs, I prefer the A. C. E. mixture to pure chloroform, and one has to exercise caution and give even this slowly in order to escape accident. But for horses, cattle, hogs and cats I have no hesitancy in using chloroform, and it can be used with safety.

I think it too bad that so many veterinarians, even in this age, continue to perform painful operations, without the use of an anesthetic, and thus subject the profession to just criticism from those outside.

G. W. BUTLER, V. S.

Lafayette, Ind.

GLANDERS IN A MAN

Some months ago a horse bought by Mr. J. R. Eads of Longmont, Colorado, developed what the owner thought was distemper. The horse became thin in flesh and died, presumably of glanders. Later his two remaining horses showed similar symptoms, and Mr. Eads developed glanders, from which he died after two weeks of illness.

Dr. F. D. Hylton was called to examine the horses and suspected glanders and applied the mallein test. Both horses gave typical reactions. They were destroyed and the premises properly disinfected.

The man showed carbuncular-like swellings from which was curetted necrosing inflammatory tissue. From the curettings B. mallei were easily recovered.

B. F. KAUPP,
Pathologist.
Col. Agr. Col. Div. of Vet. Med.
Ft. Collins, Colo.

ILLINOIS VETERINARIANS WILL CELEBRATE 30TH ANNIVERSARY

The next annual meeting of the Illinois Veterinary Medical Association will be held at the Lexington Hotel, December 5th, 6th and 7th. This is the thirtieth anniversary meeting of the Association, and arrangements for a suitable observance of this anniversary are well under way. Among the large number of attractive features on the program are the following: "Forage (Mold) Poisoning," by John R. Mohler, chief of the Pathological Division of the Bureau of Animal Industry, Washington, D. C., a paper on "Anthrax," and another on "Municipal Meat Inspection," by Dr. W. H. Dalrymple, veterinarian of the Agricultural Experiment Station and a member of the State Board of Health, Louisiana. "Stallion Registration, and Means for Improving Our Present Stallion Registration Laws," by Dr. A. S. Alexander, Madison, Wisconsin, and "Physical Examination Successful in Detecting Open Tuberculosis," by Dr. A. T. Peters, Springfield, Illinois.

A clinic, including a large variety of interesting subjects, will be presented. Drs. J. H. Blattenburg, of Lima, Ohio, L. A. Merillat and C. A. White of Chicago will perform the operations and during each operation a lecture on the subject will be given by someone selected for the purpose. The address of the evening, at the annual banquet, will be "Reminiscence of Thirty Years in the Illinois Veterinary Medical Association, by Dr. A. H. Baker of Chicago.

As usual, the meeting occurs this year during the meeting of the International Livestock Show, and immediately following the meeting of the United States Livestock Sanitary Association. Because of the excellence of its meetings and of the other attractions in Chicago at the same time, the Illinois Veterinary meeting is favored with a larger number of visitors from outside the state than any other state veterinary meeting, and it is expected that this year the attendance, both of members and visitors, will be very large.

For further information write the secretary, Dr. L. A. Merillat, 1827 Wabash Avenue, Chicago.

17TH ANNUAL MEETING OF THE U. S. L. S. S. A.

The United States Live Stock Sanitary Association will hold its 1912 meeting, December 3 and 4, Tuesday and Wednesday, of the week of the International Live-Stock Show.

The meetings of the U. S. L. S. S. A. are second to none in importance to the veterinary profession. All of the topics discussed are veterinary topics and most of the essayists are veterinarians. Because of the excellence of the program at this Association, and because of the opportunity which it gives for at the same time visiting the International Live-Stock Show, many veterinarians attend its meetings in preference to those of the A. V. M. A.

For a program and further information concerning the meeting, address the secretary, Prof. J. J. Ferguson, U. S. Yards, Chicago.

MINIMUM DOSES "TO EFFECT" THE PROPER MEDICATION

In reading the September issue of the journal and particularly the article by Doctor Spencer on "Medicine, Its Uses and Abuses," in the first column of page 367, I note in italics, "The dosage of any drug should not be the amount an animal can stand without producing a toxic action, but rather the *smallest* that can be given and still get the physiological action of that drug."

Doctor Spencer has, in my opinion, struck the fundamental principle of the selection of drugs for diseases; the principal that accounts for the fact that some practitioners

get better results than others from the same drugs in the same type of cases.

It is the principle of Hahnemann in his announcement of the homeopathic principle of the selection of drug for disease, although the *strength* of the drug used has been in controversy. His theory was propounded thus: "One dose in its highest attenuation and undisturbed action," but later developments have shown the followers of his method that a modification of it is advantageous and it has been used in later years.

"A *minimum* dose of the *right* drug followed by sufficient exhibition at intervals which would keep supported the action of that drug," will give better results than toxic doses pushed ' to effect."

The principle of homeopathy, "*similia similibus curantur*," has more in it for the veterinarian than many realize, and the fact that many practitioners are medicating on those lines, some wittingly and others unwittingly, *with results*, should bear its fruit, and, in fact, has been bearing fruit for a number of years.

There is no progress in anything that has not met with opposition, and also there is no evolution that has not had its weak as well as its strong points, but experience, the greatest teacher, has brought out all this and the wheat is separated from the chaff and the benefits to science result.

F. G. L., M. D. V.

New Port, N. Y.

TO CURE A SELF-SUCKER

In reply to the query of A. S., page 397, in the September issue of the AMERICAN JOURNAL OF VETERINARY MEDICINE, who seems to be having trouble with cows sucking themselves:

Slitting the tongue does no good. I operate by removing one-third of the tongue, two and a half to three inches back from the tip on the left side. Cut out at right angles, leaving a square shoulder.

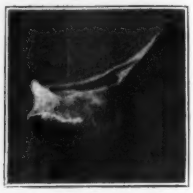
I pick the left side, as, in prehending food, cows usually work the tongue to the right, and the cut will thus not interfere with grazing.

This operation prevents the cow from forming a cup with her tongue around the teat, and in my hands has been very successful in stopping them from sucking themselves. F. E. BARNES, D. V. S.

Waxahachie, Texas.

A CYSTIC CRYPTORCHID

Enclosed find a photograph of a cystic testicle. I was called south of Terre Haute, to operate a large yearling percheron cryptorchid. He was very large for a yearling. On opening abdomen I came in contact with testicle. It felt almost as large as a cocoanut. After tapping with a trocar and drawing away its contents, I had no trouble in removing it. The cyst contained almost a quart of serum and when filled with water appeared as shown in the cut.



T. A. SEGLER, V. S.

Greencastle, Ind.

SMALL DOSES OF ARECOLINE BEST

The article or case report of Doctor Spencers in the August number, "Intestinal Twist," was very interesting to me. I am quite a user of arecoline, and until about a year ago I, too, gave it in one-grain doses and more. I now give one-half-grain doses, repeating every thirty minutes as necessary, with much better results.

I give strychnine sulphate with the first dose and repeat as necessary. I find that after a few doses have brought no results, a small dose of eserine sulphate will bring about just the action we are looking for.

In closing, let me say that I have never seen a horse, that showed a twist upon autopsy, eat even a mouthful, and for that reason I never push arecoline to the horse that refuses all food.

To those who never gave arecoline to a horse suffering with heaves, a word of advice: Don't.

G. W. STANBRIDGE, D. V. S.

Winchendon, Mass.

WHO USES "SLIM JIM"?

What formula for a body and leg wash for race horses is considered best?

Please give the formula for the body wash that is known by horsemen as the Slim Jim Liniment? This latter is used by many trainers.

F. G., D. V. S.

——, Colorado.

ANY SWAMP FEVER THERE?

We have here what is claimed to be a new disease of horses. People in that part of the country are losing range horses. The symptoms are:

Swelling in both corners of the mouth; these swellings come one day and disappear the next and return. The appetite remains good till death; across the loins they get scaly and they become weak and stagger and fall off in condition and before death become veritable skeletons. They linger for three or four weeks, sometimes six weeks. Any information would be appreciated.

G. W. PITMAN, V. S.

El Campo, Texas.

RUPTURED SPLEEN WITHOUT CONGESTION OR TRAUMATISM

The following, I think, is a rather unusual case. I was called Sunday night, to see a standard bred mare with a colt by her side about ten weeks old. The owner stated that on coming home from church that night he found the mare lying down. He made her get up and walk to the barn. She was sweating profusely and cold. She lay down most of the time and rolled occasionally. When I arrived, about four hours later, I found the mare lying down, and she had been quiet for about an hour. The owner thought she was better. Although still sweating, she was warm at this time.

The pulse could not be felt and the heart sounds were very weak; temperature 99° F. I administered stimulants and got her up. She stood for a few minutes while colt sucked; then staggered around and dropped dead.

Upon autopsy I found the abdominal cavity to be filled with blood and a rupture in the spleen about two inches long on the internal side toward the superior end, there seemed to be very little congestion. All other organs seemed normal. I should like to hear the opinion of others as to cause of this trouble.

M. W. RAY, D. V. S.

Clark, S. D.

STRYCHNINE AND BLISTERING FOR ATROPHY

Reply to C. Burbridge, D. V. S., Carlyle, Illinois:

I had as bad cases of atrophy following azoturia as any one could have, and secured good results from blisters and gentle exercise, with powdered nux vomica internally for some time. In very severe cases I have injected strychnine right into the muscles with a hypodermic syringe having a small needle. H. S. RICHARDS.

Pittsburg, Pa.

A CLOSED CERVIX

I was called to see a three-year-old heifer in labor. Severe pains had been present a number of hours. A layman who had made examination, informed me that there was no passage. It was closed up, as he termed it. I found the cervix closed to size of finger and attempts to dilate it were ineffectual.

I decided, with the consent of the owner, to operate, and with a scalpel opened the cervix with an incision at the upper side about four inches long, reached through and grasped the fore-legs of the fetus and drew them with head through the opening made, and with plenty of help soon removed a dead calf. I gave cow, fifteen minutes before operating, eight ounces of spts. vini rec., well diluted, and the same immediately after the operation. The heifer made a good recovery, was bred the following season and delivered without assistance. DR. J. F. B.

——, Maine.

IS THIS INJECTION EXTREMELY PAINFUL?

H. H. Hubbard asks (page 401) for information concerning the use of turpentine for atrophy. For more than twenty years I have used turpentine and sulphuric ether, equal parts, with good results.

W. H. M., V. S.

——, Illinois.

UNEXPECTED FATALITIES IN PRACTICE

(Continued from page 454)

of the bacterin the period of incubation would have been altogether too short, and from a wound in this location the onset of tetanus in six days is not probable. The tetanus can be looked upon here, only as a coincidence, the sequel of an infection prior to the runaway and serious wounding of this patient.—EDITOR].

A very different case with a fatal ending was that of a bay horse of the draft type. Aged about 7 years. Weight about 1400 pounds. An employee of the owner asked for the privilege of riding this horse to a neighboring village, distant about six miles, in company with another farm employee also on horseback. As they were riding along side by side, the latter's horse squealed and, as the other rider thought, crowded his horse quite sharply; though, it being dark at the time, he was unable (or unwilling) to state just what did happen. However, after the fracas was over, he noticed that his horse went somewhat lame, but not thinking much of the matter, rode on into the village, tied his horse to a hitching post and, after an hour or so, mounted the animal and rode home. The next morning the animal was quite lame in the left hind leg, but as no swelling was visible that could be detected, it was thought by the owner that the horse had strained himself and would be all right again after a few days' rest. Such was not to be the case, however. The animal continued to become lamer each day, and on the evening of the fourth day I was called to see the case. An examination readily revealed an oblique fracture of the lower third of the left femur, the periosteum had already been destroyed and the ends of the broken bone was protruding through the muscles, but not yet through the skin. The animal was suffering intense pain, being barely able to stand. When I informed the owner of my diagnosis, he was dumbfounded and could scarcely believe that I had made a correct diagnosis of the case. In a short time, however, the horse went down, and both ends of the broken femur protruded through the skin. Another unexpected fatality.

This case is really remarkable, when you take into consideration the fact that this horse traveled fully ten miles after being kicked by the other horse, and this over rough roads, it being early in March. It clearly shows the enormous tensile strength of the periosteum in a strong, healthy horse.

Unexpected fatalities often occur in mares during or shortly after parturition from injuries due to dystokia. I am not now referring to those severe cases of dystokia so often met with in a country practice, that require often several hours' strenuous labor on the part of the practitioner to overcome, and where a fatal termination may be reasonably expected. But I am referring to those camparatively easy cases of dystokia, where we find the fetus dead, but fully developed, and offering a malpresentation that is generally quite easy to rectify, and bring about easy delivery, quite often without the use of any instruments, save the hands; where the mare has not been in labor long and has not been interfered with by meddlesome amateurs trying to effect delivery. I have seen a great many of these cases join the unexpectedly fatal class. Why? Why should a mare, who has not been in labor long, who has not had any meddlers interfere with her, but who has had the prompt and skilful attendance of an experienced veterinarian, who, quite often with nothing but his hands, carefully and quickly, without the least injury to the maternal organs, removes the fetus, join the unexpectedly fatal class?

(To be continued)

Nan

By GORDON G. BURDICK, M. D., Chicago, Illinois

"Please have the doctor call at Madame Mindo's place as soon as possible, an accident has happened."

This message greeted me some nineteen years ago after a hard day's work, and as Madame Mindo put many dollars in my slim purse in those days I was only too glad to respond with enthusiasm.

The Madame owned a popular brothel in a conspicuous place in our great city, and counted among her customers some of our citizens who have made Chicago famous. When I drew before the spectacular four-story house, glaring with red lights from every window, my visit was anticipated by the colored butler, who informed me that the Madame was in the back parlor on the second floor. The expression on the darkey's face, and the audible chuckle in his voice, intimated to me that something out of the ordinary had happened.

My progress up the stairs was relayed from one inmate to the other by the information that the "Doctor is come." When I was ushered into the Madame's presence I met a striking scene. Her corpulent body was incased in a white silk dress, which was covered with blood, while one of the girls was holding a cloth upon her head from which the blood was flowing in streams. I detected an air of satisfaction and amusement among the large number of inmates who had gathered around her.

"Well, Madame, have you been trying to tame a wild cat?" I asked, as I noted the long and deep lines of scratches along her face.

"Naw, but I will when I get out of this!" she replied.

I made an examination and found a four-inch cut across the scalp which extended to the skull. I quickly caught up the spurting arteries, clipped off the hair, and after cleaning up the wound by scissoring out the base and edges, it was sutured with drainage, and a large dressing applied. The Madame was game until it was all over, when she went into as beautiful an attack of hysterics as I have ever been privileged to witness. It took all the available help in the establishment to hold her down long enough so I could give her a dose of apomorphine to relax her.

"Say, Blanche," I said to one of the most intelligent inmates, "what was the row, anyway?"

"Well, Doctor, it seems the Madame got a bargain from the sheeney syndicate (a white slave organization) and I just don't know what she paid for it, but it was a bargain all right. She has been trying to tame it for three weeks; it is locked in the attic, and none of us have seen it yet, so we don't know whether it is a skirt or some tiger she is trying to teach to eat out of her hand; anyway, she has come down several times without any clothes on and we have noticed that her hair is getting thin in spots. There was a devil of a time tonight. She went up with a couple of colored men and it sounded like a menagerie for twenty minutes, and then both of the coons smashed through the door, ran down the stairs and out of the house, as if the old boy was after them. The Madame came later and you can see for yourself that she enjoyed herself."

"Say, Blanche, show me where she is confined; we can not stand for this sort of thing when we know it. That girl must be released."

"Well, Doc, I'll show you, but you must excuse me from going in; I'm not taming wild cats just at present; I think too much of my beauty. There, you go up those stairs; she is loose somewhere in the attic."

"Say, Belle!" I said to another inmate, "get a lamp and come on with me, you are not afraid, are you?"

"I should say not, if you have nerve enough to go up, I will be with you."

We secured a lamp and I cautiously proceeded up the attic stairs, and when my head showed at the top, whiz! went a glistening object past it, which struck the jamb of the door with a crash. It was found to be a whisky bottle, and evidently was handled with considerable enthusiasm. I hastily went downstairs, and grabbing some heavy blankets from the bed used them as a shield and rushed boldly up stairs again. I caught several bottles upon the blankets until I located the

I carried her downstairs with difficulty

direction they came from, when I rushed forward and threw the covers over the head of my adversary and gathered her in my arms, head downwards, and began to descend the stairs. This I did with considerable difficulty, owing to the fact that two very thin and active legs were thrashing the atmosphere like a pair of thales. I was greeted with roars of laughter as I entered the room where the whole female contingent had gathered to see the doctor "done up."

I up-ended my burden and deposited it upon a chair, quickly removing the blanket.

"Great Scott," said Maud, "what is it?"

"Hully gee," sputtered Mame, "it's a human wish-bone!"

"Here you Dutch, get out of here, you should be ashamed of yourself, you fat slob, making fun of the poor little devil. Now git." The order was emphasized by a footstool thrown with precision by the muscular arm of Belle.

I have seen many remarkable sights in my active life but few that made such a profound impression upon me. I went into the attic to bring out a virago and what I got was a half-starved, sick and deformed girl, probably about thirteen years of age. She had a head that was wondrously beautiful, coal black eyes, but a terribly misshapen body which was emaciated either by starvation or disease.

She fascinated us by the undaunted but timid look in her eyes. She shrank away from us with every small muscle at attention for defense. She asked no quarter or gave none.

She reminded me of an eagle which I once shot, crippling him so there was no chance for escape. He asked no quarter and was not disposed to compromise; he seemed to realize that the shadow of the great unknown was hovering over him. He had never given mercy nor expected any in his present predicament. He had but his life to give and stood ready to give it upon demand.

This girl's face, which has burned itself into my memory, was that of a woman of thirty, unrefined, uneducated, and showing its possessor, while young in actual years, was old in the misery of a bitter existence. Want, brutality, and disease had left an indelible stain upon the spirit of a conqueror and as she crouched there, her burning eyes taking in detail after detail of the human vultures around us, her muscles strained to a tension, and her fingers worked convulsively like the claws of a tom cat. She was the personification of a fury; she was mad clear through, and clearly did not size up the situation upon its merits. She believed we were a few more tormentors who were there to make her lot harder to bear, and my well-meant efforts to assure her that she was among friends, and that no one would hurt her, only brought me a malevolent look, and a convulsive working of the fingers, that was not pleasant to contemplate.

Suddenly she sprang toward the attic stairs only to be foiled by my pushing the door to ahead of her, as I had anticipated just this move. She turned on me like a tiger and mounting my shoulders she began work with her nails upon my head; I deftly turned her over my head onto the floor with a jar that made her wince, and explained gravely to her that I objected to young ladies using me for a step-ladder without a proper introduction. I do not know whether she grasped the significance of what I said or not, but her respect for me began to increase and she was content to take me on faith and watch the other people.

Hully Gee! It's a Human Wishbone

"Say, girls, can't you people scare up some clothes for her, and fix her up so she looks like a human being?"

When I brought her from the attic she was stark naked, the little gown she was given having been torn to shreds in former struggles with her oppressors. While the girls were gone to find some clothes, I endeavored to gain her confidence, but each approach only excited a look of suspicion, and it occurred to me she might be tamed like her sisters, through her stomach. So I began to go through a pantomime, believing that she did not understand or talk the English language until I had her watching me narrowly to divine my object.

I opened an imaginary crock and took out an imaginary loaf of bread, and cut off a slice which I aid with great care on a part of the table and then

another slice which I laid in another place. I then went across the room and brought some imaginary butter which I spread with a great deal of elaboration on each slice of bread. Then after grunting like a pig, I cut a piece of ham and laid it on one slice of bread and laid the other one upon it carefully and taking the phantom combination between the thumb and fingers of both hands I raised it to my mouth and took a bite which I chewed with deliberation. The girl watched me with hungry greedy, eyes, while she kept taking a step nearer every few minutes; her mouth began to water while she licked her lips in anticipation. After I had taken several bites she was standing before me, with a world of appeal in her whole being and I raised the phantom sandwich up for her to take a bite. This she did and chewed with all the satisfaction of the real article. She was just taking her second bite when the troop of girls began to return with various articles of clothing. In an instant the girl was the same spiteful little devil.

"Say, Belle, will you do me a favor?"

"Sure, Doc!"

"Please go down and tell Aunt Chloe that the doctor has not had any supper, and she is to make me one of her famous plantation sandwiches; she is to toast the bread and while hot cover with melted cheese and put in a slice of nice boiled ham; and, Belle, tell her to make it two while she is at it, as the doctor is awfully hungry. Now hurry!"

"Now Maud, you and Blanche try to dress her and the rest of you people clear out, you are scaring her to death."

This was easier said than done, as she was unabashed by her nakedness, very suspicious of those around her and was not disposed to allow anyone to take her unawares. We spent a full thirty minutes trying to coax her to come forward and adopt the "poke" of civilization and with about the same success as we would have with a young colt in a pasture, who is coaxed into a halter with a measure of oats.

The situation was relieved by the entrance of Aunt Chloe with the plantation sandwiches. This good old colored lady had been highly elated at the opportunity to show off her skill for the doctor, and insisted on delivering her creations in person.

"Land a Massy! what you all doing to the little pore chile?" she exclaimed as she caught sight of the Fury crouching in the corner.

"Well, Auntie, we have been trying for thirty minutes to coax her to put on some clothes and she seems to be under the impression that we have some designs on her life or happiness. However, we are going to try the persuasion of one of your famous plantation sandwiches upon her, so keep your eyes open and watch."

With this I took up one of the savory creations and began to eat with great gusto. For a few minutes the girl did not pay much attention to me, but as the savory odor pervaded the room, she began to get uneasy and began to watch me with envious eyes. In a few minutes she was drawn to my side as irresistibly as a magnet, and stood and watched me enjoy my sandwich with greedy eyes, yet not offering to take the extra one upon the plate, which at the psychological moment I presented to her with an elaborate bow. She seized it hungrily and retreated into the corner, and after taking a bite she closed her eyes and for the first time in her short, hard life, enjoyed a luxury. Her audience watched her fascinated as she slowly chewed each morsel, fearing to swallow it for fear it was not real. The hard lines left her face and were replaced by a childish, almost helpless look, and made one wonder where her indomitable will could reside in the weak body. When the last crumb had disappeared and the fingers had been well licked to get the last delicate taste of the confection she opened her eyes and took in her surroundings. She saw me still going through the motions of eating my sandwich and came over and stood before me in anticipation. I offered it to her but she shook her head and could not be induced to take it, and when I broke it and offered her half she hesitated an instant and shook her head again and indicated that I was to eat it, and she stood by me and watched the last bite disappear, and gave a long sight of relief when the ordeal was over. This was the first foundation of her character that I learned. She was square.

"Bless the chile's heart, but she shall have some more," said Aunt Chloe, as she ambled down stairs.

After her departure we again tried to induce the girl to let us dress her, only to bring back the old haunted look and it began to look like a case of violence, when I had a happy thought.

I called the negro, who was euphoniously known as Buttons, from the amount of gold braid and brass buttons he wore on his uniform, and holding up a silver dollar where he could see it, I began:

"Sam! You see this?"

"Yessir."

"Do you know what it is?"

"Yessir."

"How many games of 'crap' will it pay for?"

"I jes' don' know, doctor, meby ten, sir."

"Now, Sam, you want the dollar don't you?"

" 'Deed I do, doctor."

"Well it is yours, if you are spry. You know Aunt Mary, who lives at 2420 —— Avenue?"

"Yessir."

"Well, get a move on you and tell her the doctor wants her; she is to take a cab and get here as soon as possible."

"Yessir, I'se goin'."

"Well, git."

"Yessir, yessir."

When Sam left us we resumed our efforts to get the girl to don some clothes and became so interested that we did not notice the entrance of Madame Mindo until she demanded to know what we were doing.

"Well, Madame, since you want to know so badly, I do not mind telling you we are trying to find out why you have a minor locked in the attic and just why you are trying to starve her?"

"Good Lord, Doctor, I did not know it was a minor and I did not starve her; why, that girl would eat a hole through a pine log. I have been trying to fatten her up. The more I give her the poorer she gets. She has been eating more than any four people in the house, and it don't do her no good. It just runs in one end and out the other. I spoke to Aunt Chloe about it and she said some people had only one gut like a goose. Is that so?"

I assured her that Aunt Chloe was correct, but "what I want to know is, where you got her, how much you paid for her, and why you have had her locked up?"

"Well, Doctor, I must be losing my mind: have you noticed anything especially wrong with me lately?"

"No, your mind seems all right, except that you are a moral idiot!"

"Now, don't flatter me, Doctor, something must be wrong or I never would have paid fifty dollars for that thing. I will get even with that sheeney for selling that girl to me. He brought her in the middle of the night and her face looked all right and when we took her clothes away after he was gone, I realized I was 'stung.' I thought I could feed her up, however, and pass her on to someone else, but the little devil fought like a wild cat every time I tried to do anything for her."

"Well, Madame, you got a bigger bargain than you thought. You paid fifty dollars for her; it will cost you three hundred and fifty dollars to get rid of her. The girl is deformed and sick; she is a minor and the 'pen' looms up for you if she is found in your house. I can get her a place for this money and see that she is cured. Now get busy and dig."

"Never! I will die before I give up a cent for her. I will throw her out tonight."

She made a dive at the poor child who had been crouching in the corner watching the Madame like a cat. Before I could intervene, she sprang upon the woman and used her nails with good effect; when I succeeded in separating them the Madame had been severely punished.

"Now, Madame, another break like this will bring the police. You have a lesson to learn and might just as well learn it now as some time in the future. If you lay another hand on her I will see you behind the bars. Now I have made you a good proposition. If you want to take it, say so. If not, I will call the police."

"If I pay this money will you drop the case?"

"Yes, I have no desire to punish you; I only want to help the girl. Come now, dig down in your stocking, and do a good deed to balance some of the evil ones you have done all your life."

(To be continued.)

NORTH CAROLINA VETERINARIANS MEET

The annual meeting of the North Carolina Veterinary Medical Association and the State Board of Examiners was held in Raleigh, June 25th and 26th.

Drs. Parker, Graves, Wood, and Brown, having passed the state board examination, were admitted to membership in the Association.

Aside from the business and scientific discussions of the session, which in themselves deserve special mention, the visit to the Agricultural College and the plant for the production of hog-cholera serum were interesting features of the meeting.

The banquet at the Yarborough Hotel was enjoyed by twenty-five veterinarians with Dr. L. G. Herring the president at the head of the table. Dr. Rankin of the State Board of Health delivered a strong address on the "Basis of Health Work."

Officers for the following year were elected as follows:

President, L. F. Koonce, Raleigh, N. C.

First Vice-president, J. P. Spoon, Burlington, N. C.

Second Vice-president, W. A. Hornaday, Burlington, N. C.

Secretary, M. J. Ragland, Salisbury, N. C.

Treasurer, T. N. Spencer, Concord, N. C.

The next meeting of the Association will be held in Salisbury, in June, 1913. M. J. RAGLAND,
Secretary.

WHO WILL SUPPLY THESE FORMULAE?

I have been taking your journal for over two years and can say I like it very much. It is getting better all the time. I take great interest in reading the different formulas found in your journal.

I would like to find out through the journal the formula for "Save the Horse" and also for "Wilcoxon's Perfection Liniment" and "Smith's Wonder Worker."

G. J. D., D. V. S.

——, Michigan.

WHO WILL DIAGNOSE AND PRESCRIBE FOR THIS ONE?

I was called to see a black gelding some time since, and found him down, mouth open and on the ground; breathing heavily, all glands of head in a uniform condition. This animal had been treated three weeks previous to my visit. He had not eaten or drank any water for eight days.

I advised continuous steaming all night, and in three minutes' time a discharge began from nostrils; in one hour the animal showed some relief. Also at the same time I injected Poly-Bacterins (Abbott). The heart was laboring very much; pus was coming out of one ear. Also I used a tonic of strychnine, iron, quinine and nuclein and blistered the throat.

The horse is being driven now, and looks well, but some food comes from nostrils; he coughs a little, occasionally, and has a slight wheeze. I will thank anyone very much for the proper treatment. Reply through VETERINARY MEDICINE.

All readers of the journal should try the gun-shot blister (mentioned on page 13, August issue). Two light applications on my ten-year-old mare's spavin, started her off sound. I am satisfied if it fails, there is no use trying anything else. It is a cracker-jack.

E. B. BUNTING, V. M. D.

Hightstown, N. J.

ASTRINGENTS FOR CRACKED HEELS

J. V. Favery asks for remedy for cracked heels. Try liquor plumbi subacetatis, one part, and green olive oil, two parts, used twice a day. The oil in this remedy keeps the scabs from getting hard and cracking more, and the lead acetate solution is a strong astringent.

I have used this for twenty years with the best of results in cases of erythema. Where there is a watery or serous discharge for a while use first the old white lotion of zinc sulphate and lead acetate, of each, one ounce to the quart of water, on cotton, and apply a loose bandage. Keep the water off this kind of cases.

H. S. RICHARDS.

Pittsburg, Pa.

CONTAINS VALUABLE INFORMATION

I find your journal of great assistance. Only last week it assisted me in the diagnosis of a case which I had not previously met with. This is the test of the utility of a journal.

E. WALLIS HOARE, F. R. C. V. S.

Cork, Ireland.

PECULIAR CASE OF TETANUS

August 9th, I was called to see a horse, and found him presenting the following symptoms:

Both ears stiff; an ear, if pulled down, would fly back to its place as though it had a spring attached. The tail was drawn upward; the anus tightly contracted; legs were fixed and rigid, and saliva was flowing from the lips, just a little. He could eat; no trismus. The eyes were firmly drawn backward by the retractor muscle, and through this agency and the fatty pad behind, the haw or membrana nictitans was brought over the greater surface of the eyeball. The bowels seemed to be somewhat constipated. The bladder was similarly lethargic. The abdomen was drawn up, and the walls of the chest were rigid. The muscles of the neck contracted very hard. The hind legs were wide apart.

After careful examination I diagnosed the case as tetanus. Am I right? The owner did not put him under treatment. Here is the history of the outcome of the case.

The owner traded to a man that turned his little finger over his right thumb quite often. He drenched with half a pint of blind tiger whisky; took a drink himself; hitched the horse to a buggy and away he went; the horse seemingly limbered up, and the new owner spitting cotton for every twenty or thirty yards; he drove him down to a shoeing shop and explained case to the shoer, another one with the same inclination, and more "blind tiger" was indulged in all around. The shoer opened up the foot and told the owner nothing but mud was the matter, still he had found that a nail had been driven by a horseshoer two weeks previous, so that an abscess had formed. What I want to know is, why is it that horse has lived so long after being handled so roughly, and exposed both to noise and light without spasm?

Is it because he has been exercising him every day? Is it because the foot was opened up at once? Or is it because the trader keeps the horse half drunk? Will one or more be so kind as to answer this letter in the next issue of the journal? Was my diagnosis correct or not? Some "smart Alecks" around here say he did not have tetanus; it may be they are right. After twenty years' practice this is the second case only that I have seen, of this long running before going down without treatment.

W. H. MORRIS, D. V. S.

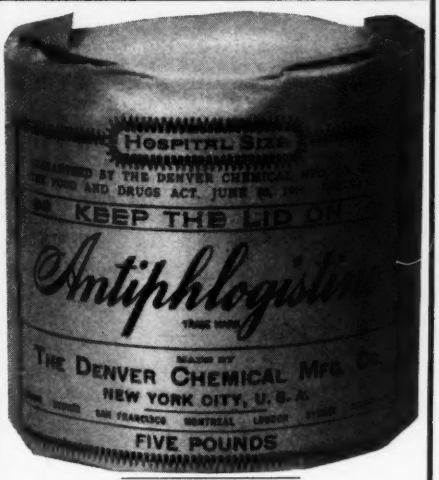
Elizabeth, City N. C.

P. S. The horse has changed hands again. He reminds me of a negro in times before the war. After being sold at the court house door the new owner would take him home for a week on trial. If anything was found wrong he would trade him off.

ENCLOSED please find check in renewal of subscription for VETERINARY MEDICINE. You have reached a very high standard and are maintaining it most excellently. I am glad that you have succeeded in practically closing your columns to "Sanitation and the Public," "The Veterinarian in Ladies Society" and similar space fillers, with well-known names attached, which are such a prominent feature in some of your contemporaries. In your last few numbers every word counts, from cover to cover.

A. W. WHITEHOUSE, D.V.S.

Boulder, Colo.



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IS THIS A NOSTRUM?

Please tell me if the "Hog Cholera Specific" made by the "U. S. Veterinary Supply Co." is as good as represented. Has anyone used it?

O. D. CHEDESTER, D. V. S.

Cordell, Okla.

DR. D. C. DEAN, veterinary surgeon, of Van Buren, Indiana, was found dead in a field near his home recently. He had been subject to heart trouble for some time and death was due to dilation of the heart.

Doctor Dean was fifty-nine years of age and had lived all his life in Grant County.

T. EARLE BUDD DEAD

Blood poisoning resulting from an infection received from a knife wound while performing an autopsy on some cattle caused the death on September 12, at the Orange Memorial Hospital of Dr. T. Earle Budd, one of the most widely known veterinarians of New Jersey.

Doctor Budd was the veterinarian for the Essex County Park Commission and examiner and treasurer of the State Board of Veterinary Medical Examiners, having been reappointed to this office by Governor Wilson, and a member of the State Live Stock Commission, twice having been chosen by the Government to go to Europe to select Clydesdale stallions to improve the breed of draft horses in New Jersey.

The following obituary notice was sent out by the N. J. V. M. A.:

"In memory of Dr. T. Earle Budd, Past-President and valued member, who died a martyr to his profession, Friday, September thirteenth, nineteen hundred and twelve, at Orange, N. J., in his fifty-second year.

"VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY."

DOCTOR WAGNER A VICTIM OF LEUKEMIA

Dr. Foster Andrew Wagner died at his home in West Philadelphia, August 6, 1912, following a long illness caused by leukemia, contracted while filling his position as veterinary inspector for the government.

Doctor Wagner was born in Hazelton, February 4, 1882, and received his early education in the public schools of that place. He was graduated from the University of Pennsylvania in 1907 after a three-years' course of studies in that institution, receiving the degree of Doctor of Veterinary Medicine.

After his graduation he took up practice in Windber, Pennsylvania, but in 1909 accepted a position as Meat Inspector and was first stationed at Cleveland, Ohio, where ill-health first overtook him. Later he was transferred to Philadelphia. He is survived by a wife and one son three years of age.

His many kind traits of character had made for him many friends, who sincerely mourn his loss.

IOWA VETERINARIAN KILLED

Dr. A. E. Duckworth, of Albia, Iowa, died at Mt. Pleasant Hospital, September 3, 1912, the result of an injury of the skull which affected the brain.

A DRUG JOURNAL FOR VETERINARIANS

The *Physicians Drug News*, September number, just came today and I will say that I think it is the best journal for the veterinarian that I have ever seen. I have been reading it for over a year and every number gets better, and it is surely a great help to me.

W. C. SPRINKLE, D. V. M.

Oaktown, Ind.

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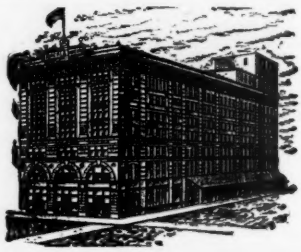

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